

Research Article

Evolution of the Quality of HIV Pre-test Counselling to Prevent Mother-to-Child Transmission of HIV from 2007 to 2016 in Cotonou (Benin)

Marius N Kedote

Institut Régional de Sante Publique, Chaire écosanté, Université d'Abomey-Calavi, Bénin

Charles Sossa Jerome

Institut Régional de Santé Publique, Université d'Abomey-Calavi, Benin

Astrid Brousselle

Université de Sherbrooke, Centre de recherche HCLM, Campus Longueuil, Canada

François Champagne

Département de gestion, d'évaluation et de politique de santé et IRSPUM, École de santé publique, Canada

ABSTRACT

Background: Data from Benin's PMTCT program indicate that 15% to 30% of women who have undergone prenatal consultation were not screened between 2005 and 2016. The testing rate varies greatly from one site to the other. Furthermore, the quality of the counselling during screening may vary significantly which is a concern.

Objective: This is to assess the quality of pre-test counselling between 2007 and 2016 within various organisational contexts in Benin.

Hence, we sought to compare what has been achieved in maternity units to the program model.

Method: Quality of pre-test counselling concerns the content and the communication model. We combined a survey to a qualitative study in 2007 and 2016. For the cross-sectional survey, pregnant women were recruited. The qualitative data were collected in semi-directed interviews and through non-participant observation.

Results: At the public sites, there are regular group counselling sessions, which provide the women with a considerable amount of information. The percentage of pregnant women who attended group counselling is nevertheless low at the private sites, where the quality of counselling is poor. Between 2007 and 2016, the quality improved in public health centers, unlike in private hospitals.

Conclusion: It is crucial that women understand the issues related to screening before acceptance, since there is considerable stigmatization attached to infection in low- and middle-income countries. However, it is deplorable that counselling is so limited in terms of information provided to women and the forms of pre-test counselling at the private sites.

Keywords: Evaluation; Quality; Counselling; PMTCT; HIV/AIDS; Benin

What do we know?

An array of studies on PMTCT in sub-Saharan Africa indicates significant discrepancies between the rate of pregnant women seen, received and actually screened during prenatal care. The effectiveness of the program is therefore closely related to coverage in terms of screening of pregnant women and pre-test counselling. So, it very important to assess the quality of the counselling. Thus, many studies conducted through observation of the quality pre-test counselling in sub-Saharan Africa reveal good scores in terms of the general quality of the communication, but also many deficiencies regarding the clarity of information conveyed to the women. Some studies suggest the lack of detailed information given to women attending pre-test counselling, in addition to mistakes in information.

What does this paper add?

Past studies usually present occasional pictures on the quality including the determinants of adherence to counselling. The present study examines the progression of pre-test and post-test counselling in behalf of women in 2007 and 2016. The methodology consists of tackling the constraints of previous observations and integrating an evaluation based questionnaire for expectant mothers under the PMTCT. This research analyses the evolution of the quality over the years and in various healthcare settings (both public and private).

Abbreviations

NGO: Non-Governmental Organization; PLWHIV: People Living with HIV/AIDS; PMTCT: Prevent Mother-to-Child Transmission of HIV; PNLs: Programme National de Lutte contre le SIDA; MTCT: Mother-to-Child Transmission

Background

In June 2015, Benin had about 922 functional sites of program for preventing mother-to-child HIV transmission (PMTCT).¹ These sites can contribute to a reduction of the rate of provided they are better equipped and have a wider coverage.² Benin has implemented a national PMTCT that provides women with information and screening tests. Benin's PMTCT program is focused not only on screening but also on the information that should be given to women both before and after screening.³

The goal in pre-test counselling is to prepare the pregnant woman to take the HIV screening test and receive the result.⁴ There is no specific counselling method used in the field of HIV/AIDS. In its learning workbook, the PNLs⁵ states that counsellors need to see counselling as a communication process.

For the most part, the quality of pre-test counselling given to a pregnant woman will play a key role in her making a rational and informed decision to be screened for HIV. Her decision whether or not to have the test depends largely on her understanding of the nature, advantages and consequences of screening and treatment. Clearly, pre-test counselling is an essential step in preparing pregnant women for the consequences of the test and subsequent care.⁶

The data from the Benin PMTCT program indicate that approximately 15% to 30% of women initially received in prenatal consultations are not screened at functional PMTCT sites.^{1,7}

Yet, it has been estimated that the incidence of vertical HIV transmission could be considerably reduced if 90% of pregnant women were screened for HIV.⁸ Furthermore, according to a recent report by the International Treatment Preparedness Coalition, the failure of PMTCT programs is mostly related to the fact that they focus on the administration of antiretroviral drugs rather than on basic issues such as the counselling and care given to the women and their newborns.⁹

The PMTCT results have led many investigators to examine the quality of pre- and post-test counselling and postnatal counselling in sub-Saharan Africa.^{10,11} Observations of counselling sessions in Kenya produced good scores for the overall quality of communication, but revealed many problems in terms of the clarity of the information provided to women.¹¹ In a study conducted in South Africa, Chopra et al. found that the quality of counselling is poor and, in particular, that the counselling on infant feeding given as part of the PMTCT program reduces program effectiveness. Some studies have reported inaccuracies in the information provided to women as part of pre- and post-test counselling as well as gaps in the information provided to women.^{10,12}

Furthermore, in Benin, the testing rate varies greatly from one site to the other. For example, during 2005, fewer than two

percent (2%) of pregnant women were tested at the Abomey-Calavi regional hospital while 97 percent of the 333 women were screened at the Zogbo sub-district health center over the same period.⁷

The PMTCT program, from screening of pregnant women to the postnatal follow-up of newborns through support of HIV-positive pregnant women until delivery is a very vital process. The effectiveness of the program is therefore closely related to its coverage in terms of screening pregnant women and the pre-test counselling. So, it very important to assess the quality of the counselling.

Since a program's effectiveness is partly determined by the extent to which it is implemented,¹³ it would therefore appear essential to appreciate the quality of the counselling, the main component of PMTCT in maternity units.

Even though this article addresses only the quality of pre-test counselling, this study is part of an implementation analysis of the entire PMTCT program. In contrast with prior studies, which were specifically designed to observe practitioners over a relatively short period of time (one day), our evaluation also included questionnaires and observations over a longer period of time (two weeks by site). Our broader analysis has allowed us to understand the PMTCT implementation better and provides a more detailed picture of what happens specifically at the level of counselling.

Method

This evaluative study applied a case study design using four cases selected from 56 functional sites, i.e., maternity units in Benin where PMTCT has been implemented in 2007. Purposive sampling was used to select the maternity units in order to ensure that the sample would cover several main characteristics of PMTCT sites the level of the health pyramid and the sector.

We therefore selected four maternity units in the area of Cotonou, Benin's largest city and economic capital. These included two public primary care centres (sites A and C), two denominational and private maternity units in hospital that are essentially privately funded (sites B and D). At the time of the first data collection, the PMTCT program had been running at all the selected sites for less than two years.

The quality of the pre-test counselling was determined by the cross-sectional survey and qualitative study.

The cross-sectional survey, conducted concurrently with the observation, explored pregnant women's exposure to pre-test counselling. For the survey, we recruited 315 pregnant women in March 2007 compared to 301 in April 2016 at the four sites. This study included women aged 17-43 in 2007 and 16-45 in 2016. Among them, 17 were HIV-positive in 2007 and 15 in 2016. Each answered a validated questionnaire on socio-demographic characteristics, the quality of their communication with the service providers, the information they received in pre-test counselling. Participants were selected at random over a two weeks period. To be selected, the women needed to be in prenatal consultation, but not in their first prenatal consultation at the maternity unit. The survey questionnaire was administered to women by four surveyors in face-to-face interviews.

Pregnant women were asked to participate in the survey at their prenatal consultations. Their participation was on a voluntary basis. Although most of the interviews were conducted in French, our discussions with pregnant women to complete the questionnaires were conducted in the main local language, which the interviewers understand well.

The qualitative data were collected through non-participant observation. In health centres, our approach involved the various strata of actors in the evaluation process. We observed various service providers (midwives, nurses, social workers, mediators). Mediators were seropositive women hired by the PMTCT and made available to the maternity units to assist other service providers in the psychological accompaniment of pregnant women.

For the quantitative analysis, bivariate analyses (Khi 2 test; $p < 0.001$) were performed on the cross-sectional survey data using SPSS Statistics (version 17.0) for comparative analysis of maternities and year. At each site, we determined the rate of pregnant women having undergone counselling and the rate of screening. Our analysis strategy was based on the main themes associated with the various units of counselling quality, in relation to the screening rate. We also compared different sites using cross-case analysis.^{14,15}

The qualitative data were transcribed and analyzed. A within-case analysis was also performed.

Results

In the first part of this results section, we presented data on the coverage of screening and counselling for pregnant women. In the second part, we discussed the quality of the counselling.

Coverage of screening and pre-test counselling

The test was offered to 80.5% in 2007 and 94% in 2016 of the women using prenatal consultation services at all the sites (Table 1).

In 2007 only 74.7% of the women using prenatal consultation services were screened at all the sites of the women in prenatal consultation compare to 87% in 2016. Of the 289 women who were offered the test in 2007, 23 refused the test, including seven at site A, five at site C, four at site B and seven at site D. In 2016, 34 of the women who were offered the test refused, including three at site A, none at site C, seventeen at site B and fourteen at site D.

Table 2 shows that only 50% of the pregnant women in 2007 and 2016 in our sample participated in group pre-test counselling sessions. However, the rates in the two public centres were very elevated so much in 2016 that in 2007. This significant discrepancy in the percentage of women who attended group counselling sessions in the different sites is compensated by the fact that the rate of women who received individual counselling was relatively high at all the sites with the exception of site D. Besides, the rate of involvement to the individual sittings of counselling was down to 55% in 2016 whereas in 2007, it was 79%.

Quality of counselling

The quality of the counselling was assessed in terms of content and communication.

Counselling content: Concerning content delivery during pre-test counselling, Table 3 shows that at the two sites A and C where group counselling is provided on a regular basis, pregnant women received more information on HIV transmission and how to avoid mother-to-child transmission of HIV than did the women at the two private sites.

Discussions on the mode of mother-to-child HIV transmission during breastfeeding were less intense at site B and generally absent from the counselling provided at sites D. In 2007, at all the public sites (A and C), the women were very well informed about the existence of therapeutic and curative treatment and the fact that it is available free of charge – this fact

Table 1: Screening rate of the women in prenatal consulting.

		Total	Site A	Site C	Site B	Site D		
Rate	2007	315	72	76	84	83	χ^2	p
	2016	301	70	70	80	81		
Offered the test (%)	2007	80,5	77,8	80,3	79,8	77,1	1,678	,642
	2016	94	77,8	77,1	79,8	80,3	21,15	,012
Screening rate (%)	2007	74,7	68,1	78,9	76,2	73,5	2,937	,401
	2016	87	95,7	100	70,2	80	172,18	<,001

Table 2: Women participation to pre-test counselling.

		Total	Site A	Site C	Site B	Site D		
Rate	2007	315	72	76	84	83	χ^2 (*)	P
	2016	301	70	70	80	81		
Participation in one or more group counselling sessions (%)	2007	54	80,6	84,2	16,7	22,9	143,11	<0,001
	2016	51	100	80	25	7	172,18	<0,001
Participation in individual counselling (%)	2007	79,4	77,8	81,6	79,8	71,1	23,99	<0,001
	2016	55	94	85	49	3	161,57	<0,001
Participation in both group and individual counselling (%)	2007	50,7	75	80,3	16,7	16,9	162,92	<0,001
	2016	44	94	71	21	2	13,77	0,003

* Pearson chi-squared tests

being one of the arguments advanced by the service providers to induce women to use the services, even at sites where there appears to be a low level of counselling implementation (sites B and D).

From 2007 to 2016, the content of delivery was invariably constant, in contrast to the constant variation of the percentage of informed expectant mothers. Hence, today as in 2007, women visiting site A are relatively well informed and counseled than those in site C, even more so than those visiting the other sites (B and D), where counseling sessions are not systematic.

Non-participant observations reveal that the content of individual counselling has been relatively limited at all the sites in 2007 and in 2016. This very brief counselling often constitutes little more than proposing screening; this is also true at the sites B and D which regularly organize group counselling. At these sites, we noted that the content of the counselling is very limited compared to the standards of the national PMTCT program. Women are often screened without having received the minimum required amount of information. The information provided to women is limited to modes of HIV transmission and the availability of medication for preventing mother-to-child HIV transmission (Table 3).

Communication during the counselling: The form of counselling refers to the communication and interpersonal relationships established between service providers and pregnant women during counselling. Table 4 shows that the public sites A and C, which appear to routinely organize group

discussions, present the highest percentages of women to whom the meaning of the different types of results has been explained. These women are also more likely to have had an opportunity to ask questions and to have been given time to make their decision on taking the test.

Group counselling is very dynamic at the public sites; the pregnant women tend to participate actively, express themselves freely and discuss the various issues around screening and PMTCT. This same tendency has been observed in 2007, except that today, the percentages are no longer the same. Indeed, the situation on the sites D and B it seems, became worse due to the weak record of well stored information. Paradoxically, the sites A and C registered progress that can be seen in the awareness level of women.

Even if the test is generally administered on a voluntary basis, at the sites B and D, the screening is sometimes imposed rather than offered to the women. In 2007, there were even three cases in which the test was administered without the woman's knowledge: one at site B and two at site D in 2007 unlike in 2016 where there were no such cases (Table 4).

Even though group discussions were relatively lengthy about 29 min in 2016 (25 min in 2007) at the A and D sites and 20 min (15 min in 2007) at the B and C sites. They became awareness-raising sessions that focused exclusively on PMTCT and particularly on the damaging effects of mother-to-child transmission and the need for screening to prevent transmission. Even before PMTCT was implemented, group discussions were

Table 3: Rate of the women who received information on preventing mother-to-child HIV transmission during pre-test counselling.

		Total	Site A	Site C	Site B	Site D		
Rate	2007	297	60	65	67	64	χ^2	p
	2016	278	70	69	60	79		
Information on mother-to-child transmission during pregnancy (%)	2007	82,2	66,7	96,9	58,2	95,3	54,71	<0,001
	2016	56	93	86	47	6	149,07	<0,001
Information on mother-to-child transmission at delivery (%)	2007	68	98,3	69,2	70,1	18,8	96,21	<0,001
	2016	55	97	81	29	5	164,30	<0,001
Information on mother-to-child transmission during breast-feeding (%)	2007	46,9	88,3	15,4	67,2	9,4	131,28	<0,001
	2016	54,54	93	83	29	5	155,27	<0,001
Information on the availability of medical care and treatment (%)	2007	85,2	93,3	81,5	85,1	89,1	40,25	<0,001
	2016	47	100	51,4	26	4	145,00	<0,001
Information on the availability of free treatment (%)	2007	66,0	61,7	73,8	20,9	73,4	81,25	<0,001
	2016	43	97	46	22,5	2,5	147,37	<0,001

Table 4: Communication level during counselling of women who had screening proposition.

		Total	Site A	Site C	Site B	Site D	Tests de chi-carré de Pearson	
Rate	2007	289	56	61	67	64	χ^2 (*)	p
	2016	273	70	78	57	68		
Explanation on the meaning of the various types of results (%)	2007	66,1	83,9	68,9	56,7	43,8	26,31	<0,001
	2016	49,8	98,5	70	26,7	6,1	162,51	<0,001
Opportunity to ask questions (%)	2007	70,6	89,3	86,9	40,3	54,7	56,49	<0,001
	2016	47,4	100	63,7	23,2	5	160,33	<0,001
Ample time to reflect on accepting screening (%)	2007	64,0	83,9	67,2	50,7	48,4	21,43	0,002
	2016	51,6	100	59,4	44,4	8,7	137,09	<0,001

used to raise pregnant women's awareness about hygiene, malaria prevention, preparing for childbirth, HIV, etc.

Non-participant observation revealed that the individual sitting of counselling is limited to one or two questions in all sites including those that organize discussions of group. However, when the test result is positive, there is one constant across all sites: a real effort is made to provide psychological counselling to these women, who are often in a state of shock. Midwives working at all the sites spend 60 min, on average, in post-test individual counselling with HIV-positive women.

This section has shown that the quality of counselling varied from one site to another from 2007 to 2016. Compared to 2007, the quality of pre-test counselling was improved at public sites A and C and poorly organized at sites B and D.

Discussion

The study examined changes in the quality of HIV pre-test counselling to prevent mother-to-child transmission of HIV from 2007 to 2016 in Cotonou. Improvements were noted regarding the screening rate, participation in both group and individual counselling rate, sensitizing women on preventing mother-to-child HIV transmission during pre-test counselling rate and allowing time to give thought to the idea of accepting screening.

When a woman learns she is HIV-positive, the psychological shock prevents an effective transfer of information. The shock associated with receiving a positive result is such that the woman is often less receptive to the post-test information and less aware of the care she requires to prevent transmission to her newborn. This phenomenon justifies giving women comprehensive pre-test counselling so that they understand the issues before they are screened. In fact, the midwife must take care to ensure that the pregnant woman's consent is fully informed, by confirming that she has the physical and psychological capacity to understand the risks and benefits inherent in taking the screening test.

At the public sites, there is regular group counselling sessions, which provide the women using these services with a considerable amount of information. Despite the low education rate of women in poor suburbs who use the sites A and C, they appear to be well informed about PMTCT. This is largely due to the intensity of group counselling. In addition, when group discussions are regularly and systematically held, women have an opportunity to attend several sessions before they deliver. However, in an analysis of the performance of 64 PMTCT programs across 25 sub-Saharan countries in Africa,¹⁶ outlines, among other things, the determinants of improved PMTCT results, the type of institution (public, international and private associations), the total number of Prenatal Consultations and the year the program is initiated.

To enhance PMTCT HIV programs,¹⁷ acknowledges the need for detailed performance standard to tackle the weaknesses, amateur workers to assist with non-clinical tasks of the PMTCT and encourage pregnant women to attend prenatal consultation early.

The percentage of pregnant women who have attended group counselling is nevertheless low where group discussions are not systematically organized.

In addition, we found that this case study revealed a greater availability of screening (proposed to 94% in 2016 compared to only 80% in 2007). In addition, a point worthy of note is that the acceptability of screening is higher in public sites (very few cases of refusal). This rate is virtually the same as rates found in evaluations of the program^{7,18} However, the screening rate cannot be considered an indicator of the quality of the counselling. Indeed, most of the women screened at the sites B and E were not informed about PMTCT. Pre-test counselling remains very limited at these two sites. In the absence of group counselling, insufficient information is provided before screening. In fact, sustained effort becomes necessary in view of another challenge to PMTCT programs, HIV-positive pregnant women who get missing without proper follow up. The recent assessment of the PMTCT program, thus, points out that the risk of HIV mother to child transmission rate is 11 times lower where systematic prenatal care exists; yet 13.4% have no thorough primary care.¹⁸

Conclusion

The prenatal visit is an opportunity to counsel pregnant women about the importance of screening and preventive care. Pre-test counselling is mandatory in Benin before all screening tests, contrary to Canadian practice, where there appears to be no counselling before testing. However, in seropositive cases, optimal treatment is provided in developed countries, with universal access. In fact, the HIV screening test is included in medical procedures. All pregnant women are informed that the screening test will be done unless they refuse it.¹⁹ This practice may result in 100% screening, but behavioural changes (primary prevention, partner screening, etc.) induced by counselling are probably non-existent.

In Benin, as in sub-Saharan Africa, it is crucial that women understand the issues related to screening before they accept it, since there is considerable stigmatization attached to the infection and the experience of HIV/AIDS is psychologically strenuous in low- and middle-income countries.²⁰ However, it is deplorable that counselling between 2007 and 2010 is so limited in terms of the information being provided to women and the forms of pre-test counselling. This is particularly true at the private sites, where a very low quality of counselling was observed as compared to the PMTCT program standards, including for communication and information.

From a public health perspective, the national program to control HIV/AIDS could better equip and assist the centres to help them be more effective at providing services and care to women. We therefore recommend, in terms of interventions, making group-counselling mandatory at all sites (include private) so that the PMTCT program can achieve sustainable results and provide the private sites with more assistance for the quality of counselling and screening activities in order to strengthen the program.

ACKNOWLEDGEMENT

This project benefited from the financial support of the Canadian Institutes of Health Research (CIHR) and the International Development Research Centre (IDRC) which awarded a doctoral fellowship to Marius Kedote.

Our sincere thanks go to Jim Kroening and Elo-oma

Nnyigide for translating the paper and to Karel Houessionon and Aline Kedote for proofreading the paper.

REFERENCES

1. Ministère de la Santé/PNLS. Monitoring du premier semestre. Rapport semestriel 2015a.
2. Sossa CJ, Agonnoude M, Bah-Chabi AI, Daho JY, de-Souza A, et al. Evaluation de la transmission de l'infection à VIH de la mère à l'enfant au Bénin en 2014. Cahiers du CBRST. 2015; 4: 19.
3. Stake RE. Multiple case study analysis. Guilford Publications, New York 2006; 342.
4. Programme National de Lutte contre le Sida. Programme de Prévention de la Transmission Mère-Enfant du VIH. Cahier de l'apprenant. Programme National de Lutte contre le Sida, Cotonou 2002.
5. Comité National de Lutte contre le Sida. Revue du cadre stratégique national de lutte contre le VIH/Sida/IST au Bénin (2001-2005). Comité National de Lutte contre le Sida, Cotonou 2006.
6. UNAIDS. Report on the global AIDS epidemic. UNAIDS, Geneva 2006.
7. Bureau d'Appui en Santé Publique. Évaluation du fonctionnement des sites et des pratiques de prévention de la transmission mère-enfant du VIH/SIDA (PTME) au Bénin. BASP'96, Cotonou 2006.
8. Burdge D, Money D, Forbes J. Canadian HIV trials network working group on vertical HIV transmission. Canadian consensus guidelines for the management of pregnant HIV-positive women and their offspring. CMAJ 2003; 168: 1683-1688.
9. Programme des Nations Unies pour le Développement. Rapport Mondial sur le développement Humain. PNUD, New York 2010.
10. Chopra M, Doherty T, Jackson D, Ashworth A. Preventing HIV transmission to children: Quality of counselling of mothers in South Africa. Acta pædiatrica 2005; 94: 357-363.
11. Delva W, Mutunga L, Quaghebeur A, Temmerman M. Quality and quantity of antenatal HIV counselling in a PMTCT programme in Mombasa, Kenya. AIDS care 2006; 18:189-193.
12. Conseil National du Sida. Avis suivi de recommandations "Promouvoir l'accès aux antirétroviraux des femmes enceintes vivant avec le VIH/sida dans les pays du Sud". Conseil National du Sida, Paris 2004.
13. Denis J-L, Champagne F. Analyse d'implantation. Université de Montréal, Montréal 1990.
14. Manson NC, O'Neil O. Rethinking informed consent in bioethics. Cambridge University Press, Cambridge 2007; 226.
15. Miles MB, Huberman M. Analyse des données qualitatives (2 ed.) De Boeck, Bruxelles 2003; 626.
16. Ladner J, Besson MH, Rodrigues M, Saba J. Performance of HIV prevention of mother-to-child transmission programs in Sub-Saharan Africa: Longitudinal assessment of 64 nevirapine-based programs implemented in 25 countries, 2000-2011. PLoS ONE 2015; 10: e0130103.
17. Kim Y, Chilila M, Shasulwe H, Banda J, Kanjipite W, et al. Evaluation of a quality improvement intervention to prevent mother-to-child transmission of HIV (PMTCT) at Zambia defence force facilities. BMC Health Services Research 2013; 13.
18. Ministère de la Santé/PNLS. Évaluation de la prévention de la transmission mère enfant du VIH au Bénin. Rapport définitif 2015b.
19. Anderson B. HIV stigma and discrimination persist, even in health care. Journal of Ethics 2009; 11: 998-1001.
20. Le Vu S. Le dépistage sauf avis contraire. Transcriptases 2007; 131.

ADDRESS FOR CORRESPONDENCE:

Marius N Kedote, Institut Régional de Sante Publique, Chaire écosanté, Université d'Abomey-Calavi 03 BP 3975 Cotonou, Bénin; Tel: +229 95 38 03 03; E-mail: kedmar@yahoo.fr

Submitted: November 09, 2016; Accepted: November 22, 2016; Published: November 29, 2016