

Acceptability of Interventions to Reduce Mother-to-Child Transmission of HIV-1 in West Africa

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Summary: Would HIV-1-positive pregnant African women use interventions of AIDS testing, medication (oral or vaginal), and vaginal disinfection to reduce the likelihood of HIV-1 transmission to their child? In this pilot study in two west African cities (Abidjan, Côte d'Ivoire, and Bobo-Dioulasso, Burkina Faso), social workers gave a native-language questionnaire to 607 pregnant women at four Maternal and Child Health Centers. The women were asked about their perception of the HIV test; consequences of testing and counseling; choice of medical intervention to protect the future child; and feelings about being in a randomized, placebo-controlled, clinical trial. Most accepted the principle of an AIDS test, said they wanted the agreement of their regular partner before being tested, and would use interventions to reduce the risk of vertical transmission. The researchers concluded that although concepts of informed consent, randomization, and placebo are difficult to understand, the study results are promising and encourage the evaluation of clinical trials to reduce mother-to-child transmission of HIV-1 in Africa. **Key Words:** Africa—Mother-to-child transmission—HIV-1—Questionnaire—Intervention—Clinical trial.

Several kinds of interventions offer the potential to reduce mother-to-child transmission of human immunodeficiency virus type 1 (HIV-1) (1). A regimen of zidovudine given to HIV-1-infected pregnant women during pregnancy and delivery, and of vaginal disinfection before and during the delivery process has been proposed as potentially applicable for reducing peripartum transmission in developing countries (1,2). Africa is presently the continent where these interventions are more urgently needed (3), but it is currently unknown whether African pregnant women are ready to accept these interventions.

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Manuscript received July 24, 1995; accepted February 21, 1996.

SUBJECTS AND METHODS

A pilot study was conducted in two cities of West Africa, Abidjan (Ivory Coast) and Bobo-Dioulasso (Burkina Faso), where the prevalence of HIV infection in pregnant women was 12% in 1992 (4) and 8% in 1991 (5), respectively. Four Maternal and Child Health (MCH) clinics, located at the Yopougon University Hospital and the Yopougon Health Center in Abidjan, and at the Social Security Health Clinic and the Farakan Maternity in Bobo-Dioulasso, have taken part in this study.

A standardized questionnaire in native language was consecutively proposed by social workers to all pregnant women who attended these MCH clinics in October 1994. The questionnaire focused on sociodemographic characteristics, perception of the HIV test, consequences of testing and counseling, choice of an intervention given to the mother to protect the future child (oral tablet or vaginal suppository), and acceptability of a double-blind, randomized, placebo-controlled clinical trial.

Six hundred seven pregnant women, equally distributed among the four MCH clinics, were interviewed. More than two thirds had a stable partner. More than half were housewives.

except at the Yopougon University Hospital, where 43% were office employees. The percentage of women who had attended school was higher in Abidjan (>50%) than in Bobo-Dioulasso (<50%). In the four MCH clinics noted, the median age of the participants was 28, 25, 27, and 21 years, respectively.

RESULTS

Among the women who were interviewed, 81 to 95%, according to the study site, accepted the principle of an HIV screening test. Should an HIV test be performed, 92 to 97% wished to know the results.

Depending on the location, 64 to 91% of the pregnant women declared they needed the agreement of their regular partner before testing for HIV. More than half wished to receive the results in the presence of a member of their family. The regular partner was the first person chosen to share the announce of the HIV test result. The large majority, 77 to 95%, also wanted to inform their partner about their possible participation in an intervention trial to reduce mother-to-child transmission of HIV-1.

In the event of a positive HIV test result, a large majority of women accepted the principle to participate in an intervention to reduce the risk of transmission of HIV-1 to their child. When women had a choice between different kinds of interventions, the options varied according to study site (Table 1).

In Bobo-Dioulasso, among the women interviewed ($n = 300$), 87 to 90% accepted the concept of a double-blind, randomized, placebo-controlled clinical trial explained by the social worker. In Abidjan, only the last 40 women from the sample at the Yopougon University Hospital were asked this question, and 18 (45%) responded positively.

CONCLUSION

Even though the pregnant women interviewed had a different background at each site, most of

them were favorable to the principle of an HIV screening test. As in Zaire (6) and Rwanda (7), where 95% of the women accepted the test, pregnant women in West Africa are increasingly aware of the risk of HIV infection. In the event of a positive HIV test, they are willing to benefit from an intervention aimed at reducing transmission of HIV-1 to their child if efficacious.

DISCUSSION

Because women declared they could not make the decision to be tested for HIV by themselves, the partners could be a limiting factor for HIV counseling and testing, a necessary condition for the use of interventions such as antiretrovirals.

Understanding the concept of randomization and the use of placebo is difficult for anyone, particularly for persons with little or no education. This can partly explain the difference in answers obtained in Abidjan and in Bobo-Dioulasso. It is conceivable that women understood these concepts but also had no alternatives to protect their child, or preferred to follow the physician's advice. A true informed consent for HIV testing and for participation in a randomized, placebo-controlled clinical trial is an issue of particular importance in developing countries where people have little access to information adapted to their sociocultural and educational context.

This behavioral survey does not necessarily reflect the actual practice of pregnant women who will be in a situation to be enrolled in clinical trials. The results are, however, sufficiently promising to propose that tolerance, acceptability, and efficacy of measures that are affordable, sustainable, and appropriate to reduce mother-to-child transmission of HIV-1 should be urgently evaluated in Africa (8).

Acknowledgment: We thank Drs. V. Leroy and B.

TABLE 1. Choice of an intervention to reduce mother-to-child transmission of HIV-1 in pregnant women attending four Maternal Child Health clinics surveyed. Abidjan (Côte d'Ivoire) and Bobo-Dioulasso (Burkina Faso), 1994

Chosen options	Bobo-Dioulasso		Abidjan	
	Social Security Clinic $n = 150$	Farakan Maternity $n = 150$	University Hospital $n = 151$	Yopougon Health Center $n = 156$
Oral tablet (%)	36.5	18.5	28.0	30.5
Vaginal suppositories (%)	11.5	4.0	38.5	23.0
Both oral tablet and vaginal suppositories (%)	20.0	28.0	25.0	40.5
Follow their physician's advice (%)	32.0	48.0	5.5	1.5
Intervention (%)	0.0	1.0	2.5	0.5
Not choose (%)	0.0	0.5	0.5	4.0
Total (%)	100	100	100	100

Tanoh; Prs. C. Wellfens-Ekra, F. Fumoux, and R. Salomon; and Ms. G. Gourvellec for their collaboration, advice, and criticism. This study was funded in part by the Agence Nationale de Recherches sur le SIDA (ANRS-AC12, Paris, France) and the French Ministry of Cooperation.

REFERENCES

1. Van de Perre P, Meda N. Interventions to reduce mother-to-child transmission of HIV. *AIDS* 1995;9(suppl A):59-66.
2. Mtimavalye L, Biggar RJ, Taha TE, Chipangwi J. Maternal-infant transmission of HIV-1 [Letter]. *N Engl J Med* 1995;332:890-1.
3. Dabis F, Mandelbrot L, Msellati P, Van de Perre P. Zidovudine to decrease mother-to-child transmission of HIV-1: Is it good for developing countries? *AIDS* 1995;9:204-6.
4. Suro B, Coulibaly IM, Gershy-Damet GM, et al. AIDS surveillance in Cote d'Ivoire 1988-1992: implications of changing case definitions. Abstract WS C01.1. *Ninth international conference on AIDS*, Berlin, June 6-11, 1993.
5. Rochereau A, Lankoandé E, Yameogo M, et al. Surveillance sérologique des infections à VIH dans trois populations sentinelles à Bobo-Dioulasso. Résumé n° 1A 105. *Vème conférence internationale sur le SIDA en Afrique*. Dakar, Sénégal, December 16-19, 1991.
6. Heyward WL, Butter VL, Malulu M, et al. Impact of counseling and testing among child-bearing women in Kinshasa, Zaïre. *AIDS* 1993;7:1633-7.
7. Allen S, Van de Perre P, Serufilira A, et al. Human immunodeficiency virus and malaria in a representative sample of childbearing women in Kigali, Rwanda. *J Infect Dis* 1991; 164:67-71.
8. Dabis F, Msellati P, Newell M-L, et al. Methodology of intervention trials to reduce mother-to-child transmission of HIV with special reference to developing countries. *AIDS* 1995;9(suppl A):67-74.