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Role of traditional birth attendants in preventing perinatal transmission of HIV

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Every year a million women infected with HIV deliver babies without professional help. Marc Bulterys and colleagues suggest here that traditional birth attendants could be involved in preventing perinatal transmission of HIV by offering services such as HIV testing and counselling and short courses of antiretroviral drugs. A research doctor in the Gambia comments on this suggestion

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In many poor parts of the world, the HIV and AIDS epidemic has eroded hard won gains in the survival of infants and children.¹ In eastern and southern Africa, infant mortality is one third to two thirds higher than it would have been in the absence of HIV and AIDS, and child mortality continues to rise, leading to a dramatic reduction in life expectancy.^{1 2}

In rich nations, rates of perinatal transmission of HIV less than 2% are now reported because of the use of combinations of antiretroviral drugs, elective caesarean section, and avoidance of breastfeeding.³⁻⁵ Transmission rates of 5% or lower may be achievable in middle income countries and some urban areas of the developing world with the use of short courses of combinations of antiretroviral drugs, appropriate infant feeding choices, and possibly elective caesarean delivery.^{1 6} However, being able to extend the benefits of these recent advances to most women infected with HIV is a tremendous challenge, particularly in rural communities, in which more than two thirds of the population of sub-Saharan Africa lives.

The simplicity and low cost of nevirapine's single dose regimen^{7 8} suggest that this highly efficacious drug might be very useful in rural settings. Obstacles to its use—including weak, underlying healthcare infrastructures⁹ and low rates of offering and uptake of voluntary counselling and testing—will be magnified in rural areas.^{1 10} As global efforts to prevent perinatal transmission of HIV increase, serious consideration should be given to the key role that traditional birth attendants could play in implementing anti-HIV interventions in rural settings.

Involving traditional birth attendants in preventing HIV transmission

In sub-Saharan Africa about 63% of pregnant women have at least one antenatal visit and 42% are attended by a professional healthcare worker at delivery.¹¹ High quality maternity care is often unavailable.¹² Home birth remains a strong preference and often is the only option.¹³ Of 22 countries surveyed in Africa, only in Botswana had a professional healthcare provider attended more than 75% of deliveries.¹¹ Between 60% and 90% of deliveries in rural areas are assisted by traditional birth attendants.¹³⁻¹⁵ Worldwide, more than one million women infected with HIV are estimated to deliver their babies without the help of professional healthcare workers.

Over the past decade, traditional birth attendants in many regions have been trained in midwifery and basic hygiene as part of a safe motherhood initiative

Summary points

Worldwide, more than one million women infected with HIV are estimated to deliver babies without professional help each year

To extend the benefits of recent advances in perinatal HIV research to women in rural communities is a tremendous challenge

As global efforts to prevent perinatal transmission of HIV expand, traditional birth attendants could play a key role in implementing effective interventions in poor rural settings

It may be possible to train traditional birth attendants to perform confidential HIV counselling and testing

With appropriate training, supervision, and support, traditional birth attendants could offer HIV prevention services and help with antiretroviral prophylaxis at delivery

aimed at reducing maternal mortality.¹³ Traditional birth attendants speak the local languages, allow traditional birthing practices, and often have the trust and respect of the community.¹³⁻¹⁵ Although providing highly skilled medical attendants for all deliveries in poor communities remains a long term goal, an intermediate solution is to identify, support, and train birth attendants who are already practising in local communities. For example, traditional birth attendants in rural Cameroon are selected by a village committee, and, after specialised training for up to six weeks, they are given a certificate, instruction book, and delivery kit. Retention of birth attendants is high because they share cultural and health beliefs with the women and have strong ties with the community. In our experience, the competence and skills of traditional birth attendants may vary widely across settings. As with professional midwives in geographically isolated clinics, traditional birth attendants require continuing education and supervision, and they need to be able to refer patients and help transport them to hospitals for second line care during delivery.^{13 16}

The ability to prescribe short courses of antiretroviral therapy presupposes that the infrastructure for antenatal care is able to provide quality care, including HIV counselling and testing.¹⁰ While most

pregnant women in poor settings attend antenatal clinics at least once before delivery, few of these women are offered and receive HIV counselling and testing. Practical obstacles such as travelling distances and fear of violence or discrimination may also affect a woman's decision to get tested.¹⁷ Rapid HIV testing services—strategies that provide an HIV test, its result, and counselling specific to the result during a single antenatal visit—seem to be effective and acceptable to pregnant women, and they can be expanded to include counselling of couples.^{18, 19} Programmes to prevent perinatal transmission of HIV aimed at women in rural areas will need thorough preparation involving the community, dissemination of information on effective strategies for preventing perinatal transmission of HIV, training of community health workers, and strengthening of links between home care and available antenatal and maternity clinics.

Making facilities for HIV testing and counselling more widely available in poor settings undoubtedly remains one of the most important challenges in combating the HIV and AIDS epidemic in poor parts of the world. Traditional (or “trained”) birth attendants could play a critical role by reaching pregnant women not currently receiving formal antenatal care and by assisting with delivery of primary services designed to prevent HIV transmission. If rapid HIV testing could be made more widely available to pregnant women (for example, in primary healthcare centres and mobile clinics), trained birth attendants could oversee the provision of nevirapine to women infected with HIV who give birth at home and to their newborn infants. Traditional birth attendants could also counsel women and their partners on how to reduce the risk of HIV being transmitted to the child, focusing particularly on the postpartum period.

To increase efforts to implement measures to reduce paediatric AIDS in areas with a high prevalence of AIDS and in poor settings, research is urgently needed to assess how best to provide nevirapine in a single dose to women delivering at home and their neonates. In areas where the prevalence of HIV is high (for example, $\geq 20\%$) and HIV counselling and testing are not yet widely available, nevirapine might be offered, in the short term, to all mothers and newborns.^{1, 7, 8, 20} However, any potential long term risks from exposing large numbers of uninfected infants to nevirapine at birth have not yet been studied. With this approach, women and infants would be treated presumptively, and women and their partners could still be offered HIV testing after the baby is born. Such an approach has the potential to greatly simplify effective prevention of HIV transmission, while still maintaining the recognised benefits of HIV counselling and testing for the individual woman and her community. Counselling and testing are critical to allow women and their families to make informed decisions about breast feeding, reproductive health choices, and other interventions to prevent HIV transmission.¹

Urgent need for innovative models

Traditional birth attendants already offer preventive health services to pregnant women and their newborns in rural settings. In some areas where birth attendants have become part of the healthcare system, they are increasingly involved in providing cost effective, malaria

Tasks for birth attendants to help prevent perinatal transmission of HIV

- Disseminate information about how HIV can be transmitted between mother and child and explain effective strategies to prevent such transmission
- Identify pregnant women in their communities and facilitate their use of available antenatal and maternity care
- Make sure that pregnant women and their partners are routinely offered HIV counselling and testing and that their uptake of this is facilitated
- Reinforce health messages, including the importance of improved nutrition during pregnancy
- Supervise directly observed treatment of mother and infant with nevirapine
- Offer advice on reducing the risk of HIV transmission to women and their partners.

prevention services to pregnant women in sub-Saharan Africa.²¹ Village workers in India have been trained to assess signs of neonatal sepsis, deliver prophylactic co-trimoxazole, and provide supportive neonatal care.²² In rural settings traditional birth attendants could take on several tasks critical to perinatal HIV prevention (box). In some settings it may be possible to train traditional birth attendants to provide confidential HIV counselling and testing themselves, perhaps using rapid oral fluid or whole blood testing.

Innovative models for prevention of perinatal transmission of HIV involving traditional birth attendants are needed to develop decentralised and home based intervention strategies appropriate to rural settings. Although these approaches would be developed to address local needs, taking into account different levels of community support, they could also be used in other rural settings where formal antenatal and maternity care services are severely limited. Pilot programmes could identify potential barriers, such as concerns about privacy and confidentiality, and could test solutions to address these concerns in the local context.

The present challenge is to translate the findings of research looking at perinatal transmission of HIV into deliverable public health programmes and to link these efforts to primary prevention of HIV infection in adults and the care of infected individuals. Local resist-

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ance and barriers to effective collaboration between traditional birth attendants and medically trained healthcare workers will have to be reduced if efforts to prevent perinatal transmission of HIV are to reach most of the rural population.²³ Recruiting professional midwives and doctors to work in remote areas remains difficult, and, even if they are recruited, first line obstetric care will most likely still be delegated to traditional birth attendants.²⁴

Conclusions

International research has shown that short courses of antiretroviral drugs, such as single doses of nevirapine, can substantially reduce the rates of transmission of HIV from mother to child. However, current pilot projects to prevent perinatal transmission of HIV in poor countries have focused primarily on women living in urban areas or in areas with relatively developed healthcare infrastructures.

It is important to determine whether innovative models that rely on traditional caregivers relevant to rural communities can also be developed and implemented. If traditional birth attendants are given appropriate training and supervision (and assuming that rapid HIV testing services could be made more widely available), they could serve as effective and readily available human resources to help mobilise local communities, deliver services to prevent transmission of HIV, and help with giving prophylactic antiretroviral drugs at delivery.

Generalisable models applicable to other poor settings could be developed from demonstration projects that involve traditional birth attendants as part of an innovative and successful model of rural healthcare delivery that emphasises prevention of perinatal transmission of HIV.

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- 1 De Cock KM, Fowler MG, Mercier E, De Vincenzi I, Saba J, Hoff E, et al. Prevention of mother-to-child HIV transmission in resource-poor coun-

- tries: translating research into policy and practice. *JAMA* 2000;283:1175-82.
- 2 Piot P, Bartos M, Ghys PD, Walker N, Schwartlander B. The global impact of HIV/AIDS. *Nature* 2001;410:968-73.
- 3 Centers for Disease Control and Prevention. Public Health Service task force recommendations for the use of antiretroviral drugs in pregnant women infected with HIV-1 for maternal health and for reducing perinatal HIV-1 transmission in the United States. *Morb Mortal Wkly Rep* 1998;47(No RR-2):1-29. www.cdc.gov/mmwr/PDF/RR/RR4702.pdf (accessed 21 Dec 2001)
- 4 Mandelbrot L, Landreau-Mascao A, Rekeciewicz C, Berrebi A, Benifla JL, Burgard M, et al. Lamivudine-zidovudine combination for prevention of maternal-infant transmission of HIV-1. *JAMA* 2001;285:2083-93.
- 5 European Mode of Delivery Collaboration. Elective caesarean-section versus vaginal delivery in prevention of vertical HIV-1 transmission. *Lancet* 1999;353:1035-9.
- 6 Shaffer N. Combination prophylaxis for prevention of maternal-infant HIV transmission: beyond 076. *JAMA* 2001;285:2129-31.
- 7 Guay LA, Musoke P, Fleming T, Bagenda D, Allen M, Nakabiito C, et al. Intrapartum and neonatal single-dose nevirapine compared with zidovudine for prevention of mother-to-child transmission of HIV-1 in Kampala, Uganda: HIVNET 012 randomized trial. *Lancet* 1999;354:795-802.
- 8 Marseille E, Kahn JG, Mmiro F, Guay L, Musoke P, Fowler MG, et al. Cost effectiveness of single-dose nevirapine regimen for mothers and babies to decrease vertical HIV-1 transmission in sub-Saharan Africa. *Lancet* 1999;354:803-9.
- 9 A global health fund: heeding Koch's caution [editorial]. *Lancet* 2001;358:1.
- 10 Baggaley R, Van Praag E. Antiretroviral interventions to reduce mother-to-child transmission of human immunodeficiency virus: challenges for health systems, communities and society. *Bull WHO* 2000;78:1036-44.
- 11 MACRO International and US Department of Health. *Demographic and Health Survey, 1996*. Calverton, MD: MACRO International, 1996.
- 12 Graham WJ, Newell M-L. Seizing the opportunity: collaborative initiatives to reduce HIV and maternal mortality. *Lancet* 1999;353:836-9.
- 13 Walraven G, Weeks A. The role of (traditional) birth attendants with midwifery skills in the reduction of maternal mortality. *Trop Med Int Health* 1999;4:527-9.
- 14 Isenlumbe AE. Integration of traditional birth attendants into primary health care. *World Health Forum* 1990;11:192-8.
- 15 Habimana P, Bulterys M, Usabuwa P, Chao A, Saah A. A survey of occupational blood contact and HIV infection among traditional birth attendants in Rwanda. *AIDS* 1994;8:701-4.
- 16 De Brouwere V, Tonglet R, Van Lerberghe W. Strategies for reducing maternal mortality in developing countries: what can we learn from the history of the industrialized West? *Trop Med Int Health* 1998;3:771-82.
- 17 Cartoux M, Msellati P, Meda N, Wellfens-Ekra C, Mandelbrot L, Leroy V, et al. Attitude of pregnant women toward HIV testing in Abidjan, Côte d'Ivoire and Bobo-Dioulasso, Burkina Faso. *AIDS* 1998;12:2337-44.
- 18 Bakari JP, McKenna S, Myrick A, Mwinga K, Bhat GJ, Allen S. Rapid voluntary testing and counseling for HIV: acceptability and feasibility in Zambian antenatal care clinics. *Ann N Y Acad Sci* 2000;918:64-76.
- 19 Painter TM. Voluntary counseling and testing for couples: a high-leverage intervention for HIV/AIDS in sub-Saharan Africa. *Soc Sci Med* 2001;53:1397-411.
- 20 Sinkala M, Stout JP, Vermund SH, Goldenberg RL, Stringer JS. Zambian women's attitudes toward mass nevirapine therapy to prevent perinatal transmission of HIV. *Lancet* 2001;358:1611-2.
- 21 Nahlen BL. Rolling back malaria in pregnancy. *N Engl J Med* 2000;343:651-2.
- 22 Bang AT, Bang RA, Baitule SB, Reddy MH, Deshmukh MD. Effect of home-based neonatal care and management of sepsis on neonatal mortality: field trial in rural India. *Lancet* 1999;354:1955-61.
- 23 Green EC. Can collaborative programs between biomedical and African indigenous health practitioners succeed? *Soc Sci Med* 1988;27:1125-30.
- 24 Piper CJ. Is there a place for traditional midwives in the provision of community health services? *Ann Trop Med Parasitol* 1997;91:237-45.

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Commentary: Involving traditional birth attendants in prevention of HIV transmission needs careful consideration

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Bulterys and colleagues advocate engaging traditional birth attendants in the efforts to prevent transmission of HIV from mother to child in poor, rural settings. Home births assisted by such attendants will remain the only option for many women in these settings for the foreseeable future.¹ Involving traditional birth attendants in reproductive health care has several

advantages, including ease of access to care and delivery of care by people from the local community who share the mother's social, cultural, and health beliefs. However, from my experiences in Tanzania and the Gambia, I have some concerns about the involvement of traditional birth attendants in prevention of HIV transmission.

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In a survey of women in rural Gambia, we found that symptoms of reproductive diseases were reported twice as often to gynaecologists as to field workers.² In a follow up survey, some women reported that it was more difficult for them to discuss sensitive issues with a woman from their own community (the field worker) than an outsider (the gynaecologist). Some women were afraid that the field worker might discuss their symptoms with others in their communities. Women therefore might be afraid to discuss their HIV status with traditional birth attendants. If we are to involve traditional birth attendants in reducing perinatal transmission of HIV, they will need to be trained about protecting patient confidentiality, and communities' understanding of HIV will also need to increase.

Traditional birth attendants are usually selected for their role by their own communities, and although some report that they are well respected and appreciated by the villagers, others may feel insecure and unappreciated. Whether this feeling is something that they can influence is unclear. In some villages, all women seem to go to the traditional birth attendant when in labour, whereas in other villages some women are resistant to seeing such an attendant. Before we can use traditional birth attendants to help reduce the transmission of HIV, we need to understand better which women readily seek their care, which women avoid them, and the reasons behind these choices. Detailed exploration of the role of the traditional birth attendant using ethnographic techniques has been rare.

In Tanzania and the Gambia, when traditional birth attendants are selected for training, an understanding usually exists that the community will support them by helping with farming and by buying small items such

as soap and razor blades. In fact, traditional birth attendants often complain about the lack of rewards for their work. This should be addressed, especially when they are to be given new roles or duties. In addition, the attitude of the people with whom traditional birth attendants have contact during their duties can be demoralising—professional healthcare workers may be patronising to the birth attendants or may not involve them in treating a woman they have referred to a health facility.

Most traditional birth attendants are illiterate, and this may be a major constraint in training them to provide high quality care. Studies in the Gambia found that many trained attendants carry out some activities successfully, but there are some deficiencies in the care that they provide—mainly due to their use of traditional practices or their inadequate knowledge.^{3 4} Continuing education and supervision of attendants are vital and should include training about infection control.⁵

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- 1 Walraven G, Weeks A. The role of (traditional) birth attendants with midwifery skills in the reduction of maternal mortality. *Trop Med Int Health* 1999;4:527-9.
- 2 Walraven G, Scherf C, West B, Ekpo G, Paine J, Coleman R, et al. The burden of reproductive-organ disease in rural women in the Gambia, west Africa. *Lancet* 2001;357:1161-7.
- 3 Menendez C, Todd J, Alonso PL, Francis N, Lulat S, Ceesay S, et al. The effects of iron supplementations during pregnancy, given by traditional birth attendants, on the prevalence of anaemia and malaria. *Trans R Soc Trop Med Hyg* 1994;88:590-3.
- 4 De Vaate B, Coleman R, Manneh H, Walraven G. Knowledge, attitudes and practices of trained traditional birth attendants in the Gambia in the prevention, recognition and management of postpartum haemorrhage. *Midwifery* (in press).
- 5 Habimana P, Bulterys M, Usabuwera P, Chao A, Saah AJ. A survey of occupational blood contact and HIV infection among traditional birth attendants in Rwanda. *AIDS* 1994;8:701-4.

A memorable teacher

Care with case notes

In October 1954 I was the newly appointed registrar to Dr John Bolton, physician and geriatrician, waiting to begin my first ward round. I had, I thought, got the details of all the cases ready, but I was still nervous. Dr Bolton had not been at the interview when I was appointed, but the ward sister and the houseman assured me that he was a nice person.

We began at the first patient and discussed her. I felt happy with what I had suggested. As we ended, I started to move towards the next bed. Dr Bolton, however, asked sister for the patient's notes and carefully wrote in a brief summary of what we had concluded. He smiled gently at me and said, "You see, if we don't do it now we may not remember all the details." I was slightly put out. "Talk now, write about it some time later" had been the routine at my teaching hospital and subsequently: I felt rebuked. For the next few patients I started to write what I thought was a crisp summary of our decisions. He looked at what I had written and said, again gently, "You know, if you don't put the date of when we found something, your notes may not be so helpful later. In fact, any observations, positive or negative, are only half as useful if they're not dated." This made sense, but no chief before had shown any such interest in these matters.

By the time that ward round was finished, I had learnt two more things that were important. Never start a fresh continuation sheet without putting the patient's name on it. And not just the

name, the hospital number. "Pages get detached from the notes and if there's no indication of who they belong to, they're useless. A whole page of work could be wasted. Lots of patients have the same name, so the number can be an important check."

I came to admire much about John Bolton. He was a careful and caring doctor, whose early death was a tragedy. He showed the same enthusiasm with his geriatric patients as with those in the general medical wards. He was the only physician I have known who set aside a period each week to be available to patients' relatives. But the teaching above all that has stayed with me was the need for care over note taking. In my time as a radiologist it was mainly applied in trying to ensure that every radiograph or scan was correctly labelled with name, hospital number, and date, not to mention right or left and time. Later, when I began to undertake interventional procedures or do scans on the wards, I began once more to write in the notes. Often mine was the first entry since the patient's admission. Sometimes I found myself writing the name and number on a new continuation sheet, thinking as I did so of John Bolton on that first round. He never formulated any rules in my hearing, but what I learnt from him was that, whatever your intrinsic habits, being a professional means being particular over things that matter, especially keeping good records.

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