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Perspective

Is HIV Screening in the Labor and Delivery Unit Feasible and Acceptable in Low-Income Settings?

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Despite the downward revision of the estimated national prevalence of HIV infection in India from 5.7 million to 2.5 million in UNAIDS' December 2007 report, the burden faced in providing national HIV prevention and care remains massive [1]. The National AIDS Control Organization (NACO) of India estimated that some 60% of cases of HIV infection are found in rural areas, where about half of India's citizens live [2]. In rural and urban areas, women of reproductive age are principally at risk for HIV acquisition through marriage—this risk reflects their husband's premarital behavior and sexual concurrency during marriage [3,4]. Therefore, NACO has focused on the expansion of voluntary counseling and testing (VCT) services to increase early case-finding, in large part through antenatal care in conjunction with the prevention of mother-to-child transmission (PMTCT) of HIV during labor and delivery [2].

What is the impact of these national policies on HIV testing during pregnancy in India? Sinha and colleagues found that out of a random sample of 400 recently pregnant women in rural Maharashtra State, where sentinel surveillance suggested an antenatal HIV rate of at least 1%, only 3.3% of women reported receiving VCT during pregnancy [5]. This exceptionally low rate of antenatal testing for HIV was attributed to two identified barriers: (1) lack of discussion of HIV testing by antenatal care providers; and (2) women's lack of awareness of HIV testing, including VCT. Interestingly, of the 13 participants reporting VCT during antenatal care, 12 received it through the private sector—thus, only one woman (in 400) reported receiving the Indian standard of care for HIV testing during pregnancy through a government clinic.

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Linked Research Article

This Perspective discusses the following new study published in *PLoS Medicine*:

Pai NPP, Barick R, Tulsky JP, Shivkumar PV, Cohan D, et al. (2008) Impact of round-the-clock, rapid oral fluid HIV testing of women in labor in rural India. PLoS Med 5(5): e92. doi:10.1371/journal.pmed.0050092

Nitika Pant Pai and colleagues report the results of offering a round-the-clock rapid HIV testing program in a rural labor ward setting in India.

In this issue of *PLoS Medicine*, Nitika Pant Pai and colleagues evaluated the uptake of 24-hour rapid HIV testing of women in a labor and delivery center in a rural, tertiary teaching hospital in Sevagram, Maharashtra State, India [6]. The research team wanted to determine if offering round-the-clock rapid HIV testing would be feasible, lead to increased uptake of testing, and identify women in labor who could be provided optimal PMTCT.

The Main Findings

The study found that acceptance of HIV testing in the labor ward was almost universal—98% of women offered HIV testing accepted it, 82% of whom had no prior history of HIV testing or had incomplete reports of testing at the time of admission to the labor ward. Importantly, only 30 women (2%) refused the confidential HIV test, most of whom perceived that they were not at risk or knew their prior HIV test result (which of course could be imperfect). A total of 15 women were found to be HIV infected using the HIV testing algorithm, giving a prevalence of 1.23%, a rate close to the 1% anticipated from the recent antenatal sentinel surveillance. Of the women who agreed to testing, 54% gave no history of a prior HIV test. Of women with a prior history of being tested for HIV, most (65%) reported a private health facility as the testing site (although an additional 24% could not recall their HIV test site). Nevertheless, 82% of the women who were tested during labor had either not been previously tested or had not received their HIV test results, suggesting that the labor ward is an important venue for testing otherwise low-risk women. Importantly, 11 of the HIV-infected women were newly identified and were immediately provided PMTCT treatment.

What is as important as the study findings is the process by which this intervention was carried out. As the pace of events in a busy labor ward leaves little time for extraneous activities, the time between determination of study eligibility and

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Abbreviations: NACO, National AIDS Control Organization; PMTCT, prevention of mother-to-child transmission; VCT, voluntary counseling and testing

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consent was brief (five to ten minutes), and pretest counseling was generally conducted within 15 minutes. The rapid HIV testing algorithm, which tests oral secretions, required 20 minutes, but this was done while other study activities were conducted. Finally, the interval from HIV diagnosis to provision of PMTCT treatment was 10–15 minutes. Thus, the entire time required to carry out all study procedures was within one hour, generally feasible during most routine labor and delivery hospital stays. Thus, the feasibility of this approach was established. As HIV testing during labor and delivery is the last chance to prevent MTCT for women who are either not offered VCT during routine antenatal care or lack access to such care, the success of this intervention offers hope for a sound response to the current situation in rural India. How to get this service institutionalized remains the next challenge.

How Can We Institutionalize These Results?

Data are often insufficient to alter health policy. As Sinha and colleagues point out in their sample in rural Maharashtra, many pregnant women have good HIV knowledge and risk awareness, yet providers remain a major roadblock to accessing HIV testing [5]. Two recent reports of providing HIV testing in rural antenatal care clinics demonstrate the acceptability of VCT in this setting [7,8]. While NACO has recently affirmed its policy of expanding VCT in antenatal care, adoption of the testing approach advocated by Pai et al. [6] would appear to offer an optimal safeguard for HIV-infected women and allow the timely provision of PMTCT care during labor and delivery. Recently, Dandona and colleagues showed that combining PMTCT services with VCT offers optimal efficiency in the Indian setting [9].

So what will it take to convince an already strapped public health care system to include round-the-clock counselors in all government labor and delivery centers? The cost–benefit savings would appear to be the short and the long answer. While human personnel budgets are rapidly increasing in cost as India modernizes, the lifelong costs of medical care for undetected HIV infection in pregnant women and the transmission of HIV to their offspring is a major financial burden, even in the context of generic HIV medications. However, it will take an enlightened facility administrator to consider the added short-term personnel costs of instituting a universal program of VCT in labor and delivery with the long-term societal costs of undetected infection, which of course will not affect the bottom line of the labor and delivery center. Given the dismal record of government health facilities in offering VCT to date, far more concerted action will be required by NACO for the situation to improve.

Conclusion

It is clear that the labor and delivery setting offers the final opportunity to detect and prevent MTCT of HIV. The program outlined by Pai and colleagues is efficient, acceptable, and leads to reduced morbidity [6]. Scaling up this program is clearly the next challenge, one that might require additional operational research efforts to convince policy makers of the utility of this approach. Without such effective programs, women are unlikely to be tested [5]—an unacceptable situation that is relatively easy to address at this time. ■

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