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Attitudes and Practices of Obstetric Care Providers in Kabul, Afghanistan Regarding Antenatal Testing for Sexually Transmitted Infection

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Abstract

Objective: To determine attitudes toward and utilization of testing for HIV, syphilis, and hepatitis B among obstetric care providers in Kabul, Afghanistan.

Design: Cross-sectional survey.

Setting: Three public maternity hospitals in Kabul, Afghanistan.

Participants: One hundred and fourteen (114) doctors and midwives.

Main Outcome Measure: Prevalence and correlates of ever having tested patients for HIV, syphilis, and hepatitis B and agreement with statements concerning attitudes toward testing and care.

Results: Less than half of the patient care providers surveyed had previously tested a patient for HIV, syphilis, or hepatitis B. Presumed rarity of these infections in Afghanistan was the most frequently stated reason for not testing, although many midwives stated that they did not have the authority to order tests. Most providers supported testing to promote neonatal health, but some midwives expressed concern regarding patient and family perceptions.

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Conclusions: Due to logistical and cultural barriers, obstetric care providers underutilize testing for antenatal patients in Afghanistan. Improved training, empowerment of female providers, and availability of rapid testing are needed.

Keywords

Afghanistan; antenatal testing; provider attitudes; HIV stigma; STIs; hepatitis B

International antenatal care guidelines recommend counseling and offering screening to all pregnant women for human immunodeficiency virus (HIV), hepatitis B surface antigen (HBsAg), and syphilis (World Health Organization [WHO], 2001). The development of whole blood rapid testing has removed a significant barrier to the detection of infectious diseases in low resource settings where tests had previously been underutilized (Hawkes, Miller, Reichenbach, Nayyar, & Buse, 2004; Phili & Vardas, 2002). Rapid tests may also be used for periodic surveillance of the antenatal population, which ensures that vaccination guidelines are appropriate (WHO).

Testing for HIV, hepatitis B, and syphilis is routinely carried out in most developed countries. However, these tests are not often ordered during antenatal care in developing countries, due to lack of resources or provider awareness, resulting in continuing neonatal infection (Hawkes et al., 2004). The purpose of this study was to determine obstetric care providers' attitudes toward and prior utilization of testing for HIV, hepatitis B, and syphilis among antepartum patients in Kabul, Afghanistan.

Background

International antenatal testing guidelines are based upon the impact of HIV, hepatitis B, and syphilis on both maternal and child health and the potential to prevent vertical transmission through timely interventions. HIV, hepatitis B, and syphilis all may be transmitted vertically, and syphilis may also be acquired in utero (American College of Obstetrics and Gynecology [ACOG], 1998; Centers for Disease Control and Prevention, 2004; Spira et al., 1999). The incidence of neonatal infection may be reduced through peripartum testing and treatment or prophylaxis (ACOG; Dao et al., 2007; Valderrama, Zacarias, & Mazin, 2004).

In post-conflict Afghanistan, there are no data on utilization of HIV, hepatitis B, or syphilis testing during antenatal care or delivery.

The development of whole blood rapid testing has removed a significant barrier to the detection of infectious diseases in low-resource settings (Hawkes et al., 2004; Phili & Vardas, 2002). Rapid tests typically involve simple, self-contained, immunoassays stable at ambient temperature, yielding highly sensitive and specific results within the duration of a medical visit or birth. Rapid tests have been developed to reliably detect antibodies or antigens associated with many infections, including HIV, hepatitis B, and syphilis, and have been found acceptable to both patients and providers in many limited-resource settings (Bronzan et al., 2007; Lien et al., 2000; Pai, Tulsy, Cohan, Colford, & Reingold, 2007; Phili & Vardas; Viani et al., 2006; Welty et al., 2005; West, Walraven, Morison, Brouwers, & Bailey, 2002). However, provider information and opinion is the main determinant of whether the tests will be utilized.

Barriers to testing among providers in the United States and other developed countries include stereotypes of who is likely to be infected with a disease and/or who needs to be screened. Numerous studies have demonstrated that health care providers in the United States order sexually transmitted infection (STI) and HIV tests less frequently for older, white, and privately insured patients (Khan, Plummer, Hussain, & Minichiello, 2008; Kushner & Solorio, 2007). In a survey of adult patients having an annual exam, only 28% of respondents reported being asked about STIs during their last checkup. Persons were more likely to be asked about STIs if they were under age 45, male, single, had a household income under the federal poverty level, or were insured by a health maintenance organization, public coverage or by no plan rather than by a fee-for-service arrangement (Tao, Irwin, & Kassler, 2000).

In Afghanistan, a post-conflict setting with a developing health infrastructure, there are no published data regarding antenatal or pediatric seroprevalence of HIV, hepatitis B, or syphilis. As such, it is unclear to what degree these diseases contribute to the high neonatal (165/1,000 live births) and child (260/1,000 children dying before fifth birthday) mortality rates (United Nations Children's Fund, 2004). The only currently available general population data for HIV, hepatitis B, and syphilis in Kabul is from blood donors, among whom prevalence (based on a single rapid test or VDRL for syphilis) was 0.07%, 3.9%, and 1.05%, respectively (Central Blood Bank, 2006).

Whole blood rapid testing for HIV, hepatitis B, and syphilis is available in many health facilities in Kabul, but it is unclear whether this resource is readily available to obstetric patients. There are no data on the utilization of HIV, hepatitis B, or syphilis testing, either during antenatal care or during facility-based delivery. There has been little assessment of knowledge of and attitudes regarding testing for HIV, hepatitis B, or syphilis among obstetric care providers.

In Afghanistan, reproductive health care providers are mostly women due to the cultural preference that female patients be seen by female providers. Many of the obstetric care providers are midwives, of whom there are approximately 2,000 registered within the country. However, the quality of education received by both doctors and midwives has been variable, as political instability caused disruptions in education and barriers to updated information. Afghanistan has experienced the return of more than four million refugees in the last 5 years (United Nations High Commissioner for Refugees, 2007), and many providers received their education or were exposed to health care practices in neighboring countries as refugees. Training of physicians in Afghanistan starts after secondary school, with a 1-year general science curriculum, followed by 5 years of medical school. Midwives complete either a 2- or 4-year program through a professional training institute in health science.

Infectious diseases are covered in the curricula of both medical and midwifery schools, which are being updated, but little information about HIV, hepatitis, and sexually transmitted infections had been included in previous curricula. As a result, the knowledge and attitudes of current providers may be quite variable and possibly inadequate. The purpose of this

study was to determine obstetric providers' attitudes toward and utilization of testing for HIV, hepatitis B, and syphilis among antepartum patients in Kabul, Afghanistan.

Methods

Setting

Kabul, the capital of Afghanistan, had a population of approximately 2.5 million in 2005, with an estimated facility-based delivery rate in urban areas of 85.2% (Central Statistics Office, 2007; Ministry of Public Health, Indian Institute of Health Management Research, Johns Hopkins Bloomberg School of Public Health, 2006). There are four public maternity hospitals in the city, providing free obstetric care locally and serving as regional referral centers for other obstetric care sites or home-based deliveries. The three hospitals with the highest volume of deliveries at the time of the study (Mallalai, Rabia Balkhi, and Khair Khana) were included. Obstetric care providers at these hospitals were enrolled in this cross-sectional study from June to September, 2006.

Eligible participants were obstetric care providers employed by the Afghan Ministry of Public Health who were able to provide informed consent. Before initiation of any study activities, approval was obtained from international and domestic institutional review boards.

Measures

Testing practices and attitudes of direct care providers (physicians and midwives) were assessed using a questionnaire developed by the investigators with input from a local advisory board of reproductive health specialists. The survey was translated and pilot-tested with five providers to ensure face and content validity. Results from the pilot session were reviewed by the investigators and members of the advisory board, and the final questionnaire was edited, translated, and back-translated for accuracy.

The final instrument assessed demographics (e.g., age, province of origin, education); professional cadre and experience (e.g., years practicing, whether performed deliveries, typical patient volume); time spent outside the country (to assess exposure to settings where testing might be more commonly utilized); prior testing practices and rationale for not testing; knowledge of HIV, hepatitis B, and syphilis; and attitudes toward patient care and testing. Residence outside the country in the last 5 years was also queried.

Participants were asked if they had ever tested a pregnant patient for HIV, hepatitis B, or syphilis; if the response was affirmative, the frequency was categorized "Rarely (<10%)," "Sometimes (10%–50%)," "Usually (50%–80%)," "Most of the time (80%–99%)," and "Always (100%)". Those indicating that they did not always test for a specific infection were asked for reasons why they did not test every time, including testing only if risk factors present, symptoms of infection present, upon patient request, or other reason, which could be specified. Participants stating they never tested for any of the infections of interest were asked why, with response options including: the specific infection is very rare in Afghanistan, fear of offending the patient or her family, patient appearing healthy so testing unnecessary, test expense, or other reason which could be specified.

Attitudes toward care of patients with HIV, hepatitis B, or syphilis, testing for infectious diseases, and standards for patient care were modeled from patients' opinions expressed during three focus group discussions conducted by one of our investigators (M.A.). The attitude statements for providers were translated, Likert format responses added, and pretested in varying order before finalizing the survey. Likert format has been used successfully in other questionnaires in Afghanistan (Amowitz, Reis, & Iacopino, 2002; van Egmond et al., 2004). Topic areas for attitude questions were: (1) stigma surrounding infection, (2) attitudes toward testing, and (3) general health care attitudes. Attitudes indicating stigma towards those with infection were measured as agreement with statements describing whether contact or medical care should be limited for those with infection and whether infection indicated prior immoral behavior. Attitudes reflecting testing utilization and other health care were measured as was agreement with statements summarizing clinical and social scenarios.

Recruitment and Data Collection

A trained female study representative recruited available obstetric care providers to participate in a study of provider knowledge, attitudes, and practices with respect to HIV, hepatitis, and syphilis testing and diagnosis in pregnancy. The study representative was present each day for at least 1 week at each hospital during at least two shifts to ensure opportunity for all eligible providers to enroll in the study. Interested providers were invited by the study representative to receive information about the study in a private office. Those interested in participating were issued a unique study number not containing their initials or any other unique identifiers and completed written informed consent.

The study number was used on all consent and questionnaire forms ; following signature, consents were immediately placed in a separate box and stored in a locked office. Questionnaires were always stored separately from consents to protect participant identity. The questionnaire was marked with the participant number only; no names were recorded. Participants were provided with the questionnaire in a private room and allowed sufficient time to complete the questionnaire; average completion time was approximately 25 minutes.

Analysis

Descriptive variables for the entire provider population were generated, including quantification of reasons for not utilizing infection testing. Age was recoded as a dichotomous variable divided at the median. Correlates of any prior use of HIV, hepatitis B, and syphilis testing were assessed with univariable logistic regression. Variables independently associated with use of testing were determined using multivariable logistic regression, including all variables significantly associated with prior testing at the 5% level in univariable analysis or potential confounders (e.g. provider cadre, age). Likelihood ratio test was used to determine variables significant at the $p < .05$ level. To create the most parsimonious model, only those variables remaining significant when included in analysis with the variable most strongly associated with prior testing were retained. Provider attitudes were compared by cadre (physician or midwife) using chi-square tests. To better assess attitudes significantly diverging between physicians and midwives, data were stratified by

cadre, and chi-square tests were performed to determine whether age affected the specific attitudes in each provider group.

Results

Provider Characteristics

Of 128 available providers, 123 were enrolled with 5 (3.9%) declining. Of 123 enrolled providers, 114 (92.7%) were doctors and midwives ; these direct care providers were the focus of this analysis. Data on demographics or provider type was not recorded for those declining participation. The 114 providers were all female and included 52 physicians and 62 midwives. Most were Afghan (99.1%), and the majority originated from Kabul or surrounding provinces (87.5%). Most providers had partial (53.1%) or complete university education (44.1%), and 34.8% reported having lived outside Afghanistan in the last 5 years.

Prior STI Testing Practices

Less than half of the providers reported previously testing patients for HIV (23.1%), hepatitis B (43.1%), or syphilis (25.9%). Reasons for not testing are summarized in Table 1. Perceptions that infections were rare in Afghanistan and low perceived likelihood of infection based on healthy appearance were the reasons most often cited.

Correlates of Prior Testing

Providers who had previously tested patients for HIV were older (≥ 31 years) (OR = 5 4.97, 95% CI: 1.70–14.52), more likely to be physicians (OR = 5 0.37, 95% CI: 0.15–0.94), and had more professional experience (≥ 3 years) (OR = 5 3.75, 95% CI: 1.36–10.34). However, when examined together in multivariate analysis, none of these variables was independently associated with previously testing for HIV.

Similarly, providers who had previously tested patients for hepatitis B were older (≥ 31 years) (OR = 5 4.43, 95% 1.95–10.08), more likely to be physicians (OR = 5 3.99, 95% CI: 1.79–8.92), and were more experienced health providers (≥ 3 years) (OR = 5 4.14, 95% CI: 1.83–9.39). In multivariable logistic regression analysis, having greater experience (≥ 3 years) (AOR = 5 3.53, 95% CI: 1.51–8.28) and being a doctor (AOR = 5 3.39, 95% CI: 1.47–7.85) were independently associated with previously having tested patients for hepatitis B. No variable was significantly associated with having tested a patient for syphilis. Correct knowledge of HIV, hepatitis B, or syphilis was not associated with providers' previous testing for any of these infections.

Provider Attitudes Toward Antenatal Testing and Patients with HIV and/or STIs

Attitudes toward testing and standards for patient care were compared between midwives and physicians (Table 2). Regarding statements addressing stigma, few providers expressed condemnation of women with HIV or an STI. Those providers conveying stigma toward infected patients were more likely to be midwives. Older midwives (≥ 31 years) were somewhat more likely than their younger counterparts to believe a husband had a right to divorce his wife in event of STI, even if he infected her.

Physicians and midwives' attitudes toward testing displayed a high level of agreement. Most providers consistently supported the idea of testing and felt it was indicated in pregnancy. However, compared with doctors, midwives were more likely to believe that provider assessment of risk, expense, and spousal disapproval were justifiable reasons for not offering testing. The first two beliefs were significantly more likely to be expressed by older midwives than their younger counterparts; no difference by age was found for doctors.

Less than half of providers had previously tested patients for HIV, hepatitis B, or syphilis.

Attitudes toward health care provision were quite consistent between midwives and doctors, with the notable exception of the husband's role in health decisions (Table 2). All midwives were more likely to validate the cultural norm of the husband's right to determine his wife's access to health care and the need for spousal approval before procedures. Only 15.9% of both doctors and midwives disagreed that it would be permissible to withhold information from the family or husband if there was concern that disclosure would be detrimental or even dangerous to the patient. Adjustment for age revealed no significant differences between older and younger providers of either cadre.

Discussion

The medical providers interviewed did not routinely utilize HIV, hepatitis B, or syphilis testing among obstetric patients. The most frequently cited barriers to testing were perceptions that these infections are rare in Afghanistan and that the patient appears healthy.

It is concerning that midwives did not believe that they were authorized to order laboratory tests, considering that they comprised half of all obstetric care providers interviewed and are often the only reproductive health care provider in many areas of Afghanistan. Some of these statements likely arise from response to the established hierarchy within the health system, where midwives are not able to perform certain procedures or make many decisions, such as proceeding with operative delivery, without consultation and agreement of a physician. These beliefs should be re-examined in light of the emphasis placed on midwifery education and placement of midwives as the sole obstetric care provider in many Afghan health facilities (JHPIEGO, 2007).

Older midwives were somewhat more likely to express stigma toward infected patients or cite patient appearance and finances as reasons not to test. In other settings, providers have often neglected to test persons due to lack of knowledge of risk factors (Bharat & Mahendra, 2007; Taylor et al., 2004). Provider stigma, particularly around issues perceived as culturally sensitive, is a known barrier to implementation of HIV treatment, and this may also apply to testing (Bharat & Mahendra).

It is particularly worrisome that many of these female providers, particularly midwives, thought it was appropriate to defer care, including testing, until the permission of a male family member was obtained. This difference may also reflect perceptions that even Afghan women with extensive medical training are not adequately empowered to make decisions for which they may later be held accountable by a patient's family. For midwives, this may be

augmented by limitations in decision-making imposed by professional hierarchy. Female providers' fear of accountability also may contribute to delay of care and subsequent maternal morbidity and mortality in this setting (Bartlett et al., 2005). This concern is unlikely to change in the near future, as younger providers subscribed to this view as often as their older counterparts, and because nearly all providers of reproductive health care are women, based on cultural norms (Bartlett et al.).

Stereotypes have been found to affect which patients are screened for infection, sexual abuse, and domestic violence in developed settings (Anderson & Aviles, 2006; Khan et al., 2008; Tao et al., 2000). When these stereotypes and surface perceptions are combined with a provider's reluctance to risk violating cultural norms, opportunities for optimal care may be missed (Kushner & Solorio, 2007). The sensitivity of Afghan providers to cultural nuances has advantages in tailoring care to families' unique needs, but contradictorily can also make them hesitant to perform screening equitably.

Improved educational efforts must accompany efforts to empower providers, particularly midwives, to provide testing. Efforts are being made to expand reproductive health services throughout the country, with innovative approaches to overcome low literacy and inability to travel to involve local women, but limited numbers of training programs and continued insecurity create ongoing challenges to these efforts (Smith, Currie, Azfar, & Rahmanzai, 2008). In this sample, prior testing for hepatitis was more common among providers with more clinical experience and for HIV among those who were older, which may reflect greater experience at navigating logistical or cultural barriers. Provider education should include approaches to overcoming barriers to testing specific to that context and should be taught by older providers who have experience in navigating cultural barriers to reproductive health care.

The presence of user-friendly and cost-effective tests may stimulate change in testing practice because lack of actual test materials was a leading reason for not testing in the past. We were unable to examine what providers did with positive test results. This important question requires study before routine testing programs are considered.

This study has a number of important limitations. First, the data cannot be generalized to all obstetric providers in Kabul, given the cross-sectional design and limitation of the sample to just three public hospitals. The hospitals included in this study are training sites, and the providers may be more likely to have been educated on HIV and sexual or blood borne infections due to workshops and retraining activities conducted onsite. All information, including utilization of prior testing, was by self-report and may be subject to reporting bias. We attempted to minimize this by providing privacy and confidentiality. Finally, agreement or disagreement with prestated attitudes may not adequately capture all beliefs that influence clinical decision-making and care delivery among obstetric care providers in Kabul. Culture affects attitudes, which in turn affects health care delivery; however, it is not possible to judge the quality of care delivered based on the providers' attitudes.

Provider education should include context-specific approaches and should be taught by older providers with experience in navigating cultural barriers to care.

In conclusion, the findings of this study indicate that antenatal testing for hepatitis B, HIV, and syphilis among providers in public hospitals in Kabul is uncommon, and practices are influenced by clinical perception and cultural norms. Provider type, age, and experience will likely affect willingness to implement testing, should supplies and evidence-based treatment for these infections become readily available. Increased testing is both acceptable and necessary in this setting to better inform hepatitis B vaccination practices (Todd et al., 2008). Culturally appropriate continuing education efforts for providers, particularly those more than 3 years beyond training, should be developed, and practical testing should be incorporated into health professions teaching curricula. Further, innovative efforts to address barriers preventing female providers from providing care, not limited to testing, but to all aspects of reproductive health care, are indicated, beginning in health professions' schools and incorporating political support. Lastly, highly sensitive and specific rapid testing technology should be made available in this setting to complement educational efforts.

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REFERENCES

- American College of Obstetrics and Gynecology (ACOG). (1998). Viral hepatitis in pregnancy. ACOG Educational Bulletin 248. Washington, DC: Author.
- Amowitz LL, Reis C, & Iacopino V. (2002). Maternal mortality in Herat Province, Afghanistan, in 2002: An indicator of women's human rights. *Journal of the American Medical Association*, 288, 1284–1291. [PubMed: 12215139]
- Anderson TR, & Aviles AM. (2006). Diverse faces of domestic violence. *Association of Black Nursing Faculty in Higher Education Journal*, 17, 129–132.
- Bartlett LA, Mawji S, Whitehead S, Crouse C, Dalil S, Afghan Maternal Mortality Study Team. et al. (2005). Where giving birth is a forecast of death: Maternal mortality in four districts of Afghanistan, 1999–2002. *Lancet*, 365, 864–870. [PubMed: 15752530]
- Bharat S, & Mahendra VS. (2007). Meeting the sexual and reproductive health needs of people living with HIV: Challenges for health care providers. *Reproductive Health Matters*, 15(29 Suppl), 93–112. [PubMed: 17531750]
- Bronzan RN, Mwesigwa-Kayongo DC, Narkunas D, Schmid GP, Neilsen GA, Ballard RC, et al. (2007). On-site rapid antenatal syphilis screening with an immunochromatographic strip improves case detection and treatment in rural South African clinics. *Sexually Transmitted Diseases*, 34(7 Suppl), S55–S60. [PubMed: 17139234]
- Centers for Disease Control and Prevention. (2004). Congenital syphilis-United States, 2002. *Morbidity and Mortality Weekly Report*, 53, 716–9. [PubMed: 15306757]
- Central Blood Bank. (2006). Report of testing of blood donors from March-December, 2006. Kabul: Ministry of Public Health.
- Central Statistics Office. (2007). Annual Report, Kabul-Afghanistan. Retrieved July 31, 2007, from <http://www.cso.gov.af/Census/census.htm>
- Dao H, Mofenson LM, Ekpini R, Gilks CF, Barnhart M, Bolu O, et al. (2007). International recommendations on antiretroviral drugs for treatment of HIV-infected women and prevention of mother-to-child HIV transmission in resource-limited settings: 2006 update. *American Journal of Obstetrics and Gynecology*, 197(3 Suppl), S42–S55. [PubMed: 17825650]
- Hawkes S, Miller S, Reichenbach L, Nayyar A, & Buse K. (2004). Antenatal syphilis control: People, programmes, policies, and politics. *Bulletin of the World Health Organization*, 82, 417–423. [PubMed: 15356933]

- JHPIEGO. (2007). Afghanistan welcomes new midwifery graduates, looks forward to first Congress. Retrieved August 4, 2007, from <http://www.jhpiego.org/media/featarticles/ft20050413a.htm>
- Khan A, Plummer D, Hussain R, & Minichiello V. (2008). Does physician bias affect the quality of care they deliver? Evidence in the care of sexually transmitted infections. *Sexually Transmitted Infections*, 84, 150–151. [PubMed: 17974595]
- Kushner M, & Solorio MR. (2007). The STI and HIV testing practices of primary care providers. *Journal of the National Medical Association*, 99, 258–263. [PubMed: 17393950]
- Lien TX, Tien NT, Chanpong GF, Cuc CT, Yen VT, Soderquist R, et al. (2000). Evaluation of rapid diagnostic tests for the detection of human immunodeficiency virus types 1 and 2, hepatitis B surface antigen, and syphilis in Ho Chi Minh City, Vietnam. *American Journal of Tropical Medicine and Hygiene*, 62, 301–309. [PubMed: 10813489]
- Ministry of Public Health, (2006). Indian Institute of Health Management Research, Johns Hopkins Bloomberg School of Public Health. National Risk and Vulnerability Assessment. Kabul, Afghanistan: Ministry of Public Health.
- Pai NP, Tulsy JP, Cohan D, Colford JM Jr, & Reingold AL. (2007). Rapid point-of-care HIV testing in pregnant women: A systematic review and meta-analysis. *Tropical Medicine and International Health*, 12, 162–173. [PubMed: 17300622]
- Phili R, & Vardas E. (2002). Evaluation of a rapid human immunodeficiency virus test at two community clinics in Kwazulu-Natal. *South African Medical Journal*, 92, 818–821. [PubMed: 12432808]
- Smith JM, Currie S, Azfar P, & Rahmanzai AJ. (2008). Establishment of an accreditation system for midwifery education in Afghanistan: Maintaining quality during national expansion. *Public Health*, 122, 558–567. [PubMed: 18460411]
- Spira R, Lepage P, Msellati P, Van De Perre P, Leroy V, Simonon A, et al. (1999). Natural history of human immunodeficiency virus type 1 infection in children: A five-year prospective study in Rwanda. Mother-to-Child HIV-1 Transmission Study Group. *Pediatrics*, 104, ed56.
- Tao G, Irwin KL, & Kassler WJ. (2000). Missed opportunities to assess sexually transmitted diseases in U.S. adults during routine medical checkups. *American Journal of Preventive Medicine*, 18, 109–114. [PubMed: 10698240]
- Taylor VM, Yasui Y, Burke N, Nguyen T, Chen A, Acorda E, et al. (2004). Hepatitis B testing among Vietnamese American men. *Cancer Detection and Prevention*, 28, 170–177. [PubMed: 15225896]
- Todd CS, Ahmadzai M, Atiqzai F, Miller S, Ghazanfar SAS, & Strathdee SA. (in press). Seroprevalence and correlates of HIV, syphilis, and hepatitis B and C virus among intrapartum patients in Kabul, Afghanistan: A cross-sectional assessment. *BioMed Central Infectious Diseases*
- United Nations Children's Fund. (2004) At a glance: Afghanistan Statistics. Retrieved April 14, 2008, from http://www.unicef.org/infobycountry/afghanistan_statistics.html
- United Nations High Commissioner for Refugees. (2007). Return to Afghanistan. Retrieved September 5, 2007, from <http://www.unhcr.org/afghan.html>
- Valderrama J, Zacarias F, & Mazin R. (2004). Maternal syphilis and congenital syphilis in Latin America: Big problem, simple solution. *Review Panama Saluda Publica*, 16, 211–217.
- van Egmond K, Naeem AJ, Verstraelen H, Bosmans M, Claeys P, & Temmerman M. (2004). Reproductive health in Afghanistan: Results of a knowledge, attitudes and practices survey among Afghan women in Kabul. *Disasters*, 28, 269–282. [PubMed: 15344941]
- Viani RM, Araneta MR, Ruiz-Calderon J, Hubbard P, Lopez G, Chacon-Cruz E, et al. (2006). Perinatal HIV counseling and rapid testing in Tijuana, Baja California, Mexico: Seroprevalence and correlates of HIV infection. *Journal of Acquired Immune Deficiency Syndrome*, 41, 87–92.
- Welty TK, Bulterys M, Welty ER, Tih PM, Ndikintum G, Nkuoh G, et al. (2005). Integrating prevention of mother-to-child HIV transmission into routine antenatal care: The key to program expansion in Cameroon. *Journal of Acquired Immune Deficiency Syndrome*, 40, 486–493.
- West B, Walraven G, Morison L, Brouwers J, & Bailey R. (2002). Performance of the rapid plasma reagin and the rapid syphilis screening tests in the diagnosis of syphilis in field conditions in rural Africa. *Sexually Transmitted Infections*, 78, 282–285. [PubMed: 12181468]

World Health Organization (WHO). (2001) Introduction of hepatitis B vaccine into childhood immunization services Management guidelines, including information for health workers and parents Geneva Author

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Reasons for Never or Not Consistently Performing Antenatal Testing for HIV, Hepatitis B, and Syphilis Among Obstetric Care Providers in Kabul, Afghanistan (n 5112)

Table 1:

Reason for Never Performing Test	HIV (n = 5 83) (%)	Hepatitis B (n = 5 62) (%)	Syphilis (n = 5 80) (%)
Perceived rarity of the infection in Afghanistan	43.8	25.8	54.2
Patient appears healthy/no clinical suspicion	16.1	21.3	9.6
Test expense	8.8	21.0	13.3
Fear of offending patient or her family	7.5	8.1	8.4
Lack of access to test kits	8.8	15.5	16.1
Inability of midwives to order these tests	3.1	3.9	2.7
Other	2.6	9.6	—
Reason for Not Consistently Performing Test	HIV (n = 5 24) (%)	Hepatitis B (n = 5 43) (%)	Syphilis (n = 5 28) (%)
Only if risk factors present	50.0	41.9	21.4
Only if symptoms present	41.7	53.5	75.0
Only on patient request	8.3	—	3.6
Other	—	2.3	—

Midwife and Physician Differences in Attitudes Concerning Antenatal Infection Testing and Care (n 5114)

Table 2:

	Strongly Agree/Agree		Strongly Disagree/Disagree		p-Value
	Midwife (n = 5 62) (%)	Doctor (n = 5 52) (%)	Midwife (n = 5 62) (%)	Doctor (n = 5 52) (%)	
<i>Statements addressing stigma</i>					
I would not associate with a person with HIV or a sexually-transmitted infection because my reputation would be affected	35.5	15.7	64.5	84.3	.096
A woman with HIV or an STI must have done something very bad to get such an infection	22.6	2.0	77.4	98.0	.009
It would be acceptable for a husband to divorce his wife if she had an STI, even if he infected her	24.2	2.0	75.8	98.0	.006
If my relative had HIV or an STI, I would never associate with them again	24.2	7.8	72.6	92.2	.052
People with STI or HIV should not be treated because they did something bad to get this infection	19.4	3.9	80.6	96.1	.060
<i>Attitudes toward testing</i>					
I am worried that if I offer to test a patient for STIs she will think that I disapprove of her	29.0	17.6	71.0	82.4	.288
Patients should have any blood test that could guarantee the health of the baby, even if it is for HIV or STIs	88.7	84.3	11.3	15.7	.733
I don't think it is necessary to test for an infection that I don't think a patient has, even if it might affect her baby	35.5	15.7	64.5	84.3	.029
I will not test for infection because it is too expensive, even if it affects the health of a baby	29.0	5.9	71.0	94.1	.001
I will not test for HIV or STIs in pregnancy because I have to tell the husband the results, even if it adversely affects the health of the baby	35.5	7.8	64.5	92.2	.001
I support any testing that needs to be done to make sure that my patient is healthy	93.5	91.8	6.5	8.2	.724
The husbands of my patients support any testing that needs to be done to make sure that the baby is healthy	91.8	82.0	8.2	18.0	.086
I think testing is a bad idea because having blood taken will make the patient weak	11.3	2.0	88.7	98.0	.180
I will do additional testing if the patient requests it to ensure the health of the baby	80.6	72.5	19.4	27.5	.175
Women should have any test that the doctor/midwife recommends	100	99.0	0	1.0	.137
The doctor/midwife should always explain why a test is necessary	100	99.0	0	1.0	.278
Blood testing is not harmful to a patient's health	98.4	98.0	1.6	2.0	.460

	Strongly Agree/Agree		Strongly Disagree/Disagree		p-Value
	Midwife (n = 562) (%)	Doctor (n = 552) (%)	Midwife (n = 562) (%)	Doctor (n = 552) (%)	
Blood testing is not harmful to the baby's health	98.4	100	1.6	0	.632
<i>Attitudes toward care provision</i>					
The patient trusts me to keep confidential any information about her and her baby	88.3	82.4	11.7	17.6	.339
I should not tell anything to the patient's husband or family if it may cause her harm or trouble	87.9	78.4	12.1	21.6	.392
It is the husband's decision whether a woman may receive care from a doctor or midwife	87.9	29.4	12.1	70.6	<.001
I must consult the patient before I provide any care to her or her baby in the hospital	95.0	94.1	5.0	5.9	.914
I must obtain the consent of the husband for all medical decisions that affect the patient or her baby, even if it is an emergency	85.5	64.7	14.5	35.3	.064
Husbands should be educated about what care is necessary for a healthy pregnancy	98.4	99.0	1.6	1.0	.741