



The necessity of HIV testing in Iranian pregnant women and its ethical considerations

Pooneh Salari¹ and Maryam Azizi²

Address:

¹ Assistant Professor, Medical Ethics and History of Medicine Research Center of Tehran University of Medical Sciences

² Researcher, Medical Ethics and History of Medicine Research Center of Tehran University of Medical Sciences

Corresponding author:

Pooneh Salari

Medical Ethics and History of Medicine Research Center of Tehran University of Medical Sciences

3rd floor, 21#, 16 Azar Ave, Tehran, Iran.

Phone: +982166419661

email: poonehsalari@gmail.com

Received: 19 Dec 2008

Accepted: 10 Jan 2009

Published: 13 Jan 2009

J Med Ethics Hist Med, 2009, 2:1

© 2009 Pooneh Salari and Maryam Azizi; licensee Tehran Univ. Med. Sci.

Abstract

A high number of HIV positive babies are born each year, whereas by highly effective preventive measures, the risk of mother-to-child transmission can be decreased significantly. There are different methods (for example mandatory versus voluntary) for HIV screening in pregnant women, but there are debates on conducting HIV testing by these methods. One of the most important issues in this field is its ethical considerations. Also its limitations cannot be ignored. According to these facts several keywords were searched by search engines such as Web of Sciences, Medline, Google scholar, WHO website. The most relevant and recent articles were chosen.

Concerning the importance of vertical transmission of HIV, the role of preventive measures, ethical considerations, and the limitations of HIV screening, we recommend HIV testing offer to every pregnant women at the first clinic visit by providing enough information for patient and considering her autonomy. Also policy makers should provide a guideline for this test according to the pregnant women's autonomy, confidentiality, and dignity.

Keywords

HIV screening, Vertical transmission, Ethics, Autonomy, Human rights

Introduction

The increasing numbers of individuals living with HIV, especially the women as the swiftest-growing group of newly diagnosed HIV, made us

interested in preventive measures. Pregnant women are considered as representatives of all women in the child-bearing ages (1, 2).

A high number of the HIV-positive women giving birth each year, so the considerable numbers

of HIV-infected infants are added to the population each year. In 2003, the cumulative numbers of death due to prenatally acquired AIDS was estimated to be 5000 in the United States (3). In addition, long dormancy period prior to launching the disease and the future reflection of epidemiologic studies in AIDS, HIV screening displays a more recent description (4).

In Iran the most HIV infected patients (75%) are men in the range of 15-49 year which are sexually active group of the society. Lack of access to the high risk women for consultation and testing, the actual number of HIV positive women have not been identified (5). According to the last population study there are more than 66000 HIV positive in Iran (6).

Considering the preventive effects of zidovudine during pregnancy in 1994 which can decrease the chance of vertical transmission of HIV, preventive efforts have focused on pregnant women as a target group for HIV testing (7). Concerning these facts, prevention of mother-to-child transmission (PMTCT) programs launched as worldwide programs. The emergence of new antiretroviral medications and the efficacy of a combination of three highly active drugs, prevention of HIV infection in newborns and treatment of women assigned to be the primary and secondary goals of prevention respectively (8, 9).

The maternal transmission of HIV infection can happen during pregnancy (antepartum), through labor and delivery (intrapartum), and after delivery (postnatal). Antepartum transmission is suggested to be signified as much as 25% to 40% of the cases of maternal transmission and the rest of cases occur during labor and delivery (10). The risk of maternal transmission can be reduced by techniques which decrease the chance of the interaction between infected maternal blood and fetus (11).

Postnatal transmission which estimated to account for 44% of newborn cases occurs in setting of breastfeeding (12). The higher maternal viral load and the lower CD4 cell counts increase the risk of transmission (13- 17). The risk of vertical transmission of HIV can be reduced as less as 1% by combination anti-retroviral regimens both in mother and newborn six weeks postpartum, in addition to eluding breastfeeding and cesarean section (18-21).

Therefore HIV screening during pregnancy and before delivery is the most important step in the aim of preventing disease transmission (22). Distinguishing HIV-infected pregnant women pave the way of choosing the best treatment option during pregnancy and reduce the risk of vertical transmission as well (22). Recently, universal testing of all pregnant women is currently recommended and supported by the Canadian Pediatric Society (CPS), the American Academy of Pediatrics (AAP), the Institute of Medicine (IOM),

the American College of Obstetricians and Gynecologists (ACOG), and the Society of Obstetricians and Gynecologists of Canada (SOGC) (23).

In spite of global agreement on the necessity of upraising HIV testing, the most effective way of the action and its quality is on debate in different societies (24).

In the regions with high HIV prevalence, the voluntary HIV counseling and testing displaced with routine or mandatory testing (25) that is on debates (26). The question is that: Is the mandatory testing a moral option in this case and how we get aware of its necessity?

Methods of testing

Previously, the worldwide strategy was based on promoting client-initiated voluntary counseling and testing (VCT) and according to the consent, counseling and confidentiality (27). Regarding its usefulness in public health and human rights fields, now some health care providers argue about its insufficiency in making the HIV testing more routine (28).

After a while two other types of HIV testing [client initiated (voluntary) testing versus provider initiated (mandatory) testing], were introduced to the health care providers.

A similar division method has divided the HIV testing methods into the other two different types of HIV testing opt-in versus opt-out HIV testing. In opt-in method a comprehensive pre-test counseling and informed consent is provided for women (29). The rate of accepting the test is related to the quality and quantity of counseling (30). In the opt-out method the test is conducted routinely after giving enough information to pregnant women however they have the right to refuse (29). In the opt-out method the patient should be aware of the risks and benefits of testing, her rights and health care services if the test is positive (22). The higher screening rate was reported by opt-out testing (30). It is noteworthy that the mandatory HIV testing is the last option in the high prevalence areas when the other strategies have not provided significant reductions in the rate of vertical transmission.

Ethical view

Concerning two types of HIV testing [client initiated (voluntary) testing versus provider initiated (mandatory) testing] real conflicts have risen in this issue from ethical and legal points of views.

In 2006, WHO and Joint United Nations Program on HIV/AIDS (UNAIDS) released a guidance for promoting provider-initiated HIV testing and counseling (PITC) in health facilities (31). The guidance consists on collaboration of

medical ethics, clinical, public health and human rights and it highlights the necessity of adjustment according to every country context (32).

Regarding two types of testing, voluntary versus mandatory testing, in any circumstances the mandatory testing is the most disputable strategy because even in a high standard of expertise, it limits individual autonomy and diminishes patient's privacy. While forbidding screening tests allows more babies to be infected, according to respecting individuals and not consider them as an instrument, such a compelling target-driven authoritative to diagnose the infected women may diminish individuals autonomy (33).

The conception of complying with the formal permission of health staff in support of testing, time shortage for making decision, and the power of universal routine testing all undervalue patient's autonomy (34).

Mandatory testing provides an estate in which the moral value of mother is secondary to that of her child and it denies her dignity. Therefore she will lose her control on her future life especially when she is vulnerable and needs essential healthcare measures in the term of safeguarding her pregnancy. Despite of efforts in facilitating HIV testing by Clark in a study in Botswana, prevention strategies did not show significant benefits (35). In this study Clark consisted more on human rights and the moral frame work.

Confidentiality is another important issue and has to be taken into account while exchanging information between healthcare providers in the purpose of providing the most suitable post-test care. Because of the psychological, social and physical distresses to newly diagnosed HIV-positive pregnant women, the assurance between she and health care providers will be omitted which more endangers effective caring modalities (36).

Practically, a routine offer of HIV testing may predominantly serve as routine testing. In this regard, pre-test counseling will be forgotten. Therefore the principles of HIV testing (consent, counseling, and confidentiality) will be undermined which disregards human rights (37).

Limitations of routine screening

There are some obstacles in accepting HIV testing such as horror feeling of adverse consequences, having no concern about its benefit, unawareness of HIV risk, cultural and religious norm, inconvenient testing, lack of privacy in counseling and assurance of confidentiality, fear of isolation, and lack of social support (38). So there is a little probability that an HIV positive patient gets her results and co-operate for receiving treatment modalities (39).

The insight of low risk to HIV infection considered as the main reason of prohibiting HIV testing in one former research (40, 41).

Also false positive results in low-risk patients and its outcome is a real concern and it wastes our resources and patients trust. However the rate of false positive results is rare and the harms are minimal. The harms of false-positive HIV testing may consist of elective pregnancy termination, anxiety, discrimination or altered partner relationship. Also false-negative and true-negative test results can cause perpetual unsafe behaviors (42).

Furthermore the adverse effects of antiretroviral medications on fetus cannot be ignored. HIV positive pregnant women should be acknowledged about the possible risks of drug toxicity for fetus. They have to make decision about their own bodies according to their rights. In addition cesarean section as another preventive modality on vertical transmission does not seem to have a major role as chemoprophylaxis.

Regarding the two major benefits from routine HIV testing in pregnant women (early diagnosis to decrease morbidity and mortality and reducing transmission), HIV testing seems to be cost effective.

Conclusion

Considering the prevalence of HIV infection or risk characterization in each population, we (or authorities) can define a screening strategy. It has to be considered that in risk evaluation, the fear and shame of telling truth is an inhibitory force which may lead to unfair risk evaluation.

One another important issue is the time of initiating drug therapy which the best time is between 15 and 19 weeks of gestation. Therefore HIV screening testing should be performed at the first prenatal visit (43, 44).

Paying enough attention to the UNAIDS declarations such as protecting human rights, both of those vulnerable to infection and those already infected is not only right but also produces positive public health results against HIV.

Concerning the low prevalence of HIV in Iran or considering the low number of the confirmed HIV positive women, the reported percentage of pregnant women living with HIV who received antiretrovirals for preventing mother-to-child transmission by WHO which is as low as 2% (45) while the declaration of commitment HIV/AIDS of the United Nations General assembly special session on HIV/AIDS consisting on preventive measures for reducing the proportion of infants infected with HIV by 50% by 2010 (46), and the cultural and religious normative, performing the opt-in HIV testing is highly recommended in

pregnant women in Iran. In this regard our policy should be based on the below principles:

- High rates of agreement to test can be attained by applicable education and support. Generally the belief of autonomy in decision making should be considered when pregnant women are offered to take HIV testing. They should be excused from social expectations as to what would be best for them and empower them to make decisions by themselves.
- The health policy should be based on human rights to guarantee decision making autonomously, a person is not keep in repressed by inner contextual forces like as health care provider or partner compulsion,

cultural or religious pressures or fear of future access to social networks and support. The obstetricians visit is a good time for exchanging much information in an acceptable and effective way without reasoning a major concern or signal in the patient. Additional methods such as audiovisual aids and informal education by a nurse counselor or social worker in the clinic may be helpful (47).

The benefits of performing this screening test in pregnant women will be considerable because it is a fundamental way of reducing the outcome of HIV globally and augmenting human dignity, security and development.

References

1. Colebunders RL, Heywad WL. Surveillance of AIDS and HIV infection: opportunities and challenges. *Health Policy* 1990; 15: 1-11.
2. Karon JM, Rosenberg PS, Mcquillan G, et al. Prevalence of HIV infection in the US, 1984 to 1992. *JAMA* 1996; 276: 126-31.
3. Anonymous. Center for Disease Control and Prevention. HIV/AIDS Surveillance Report. 2003 (volume 15). www.cdc.gov/hiv/states/2003SurveillanceReport.pdf (accessed on Dec 2008)
4. Mertens TE, Low-Beer D. HIV and AIDS: where is the epidemic going? *Bull World Health Organ* 1996; 74(2): 121-9.
5. Anonymous. Prevalence of HIV/AIDS in Iran. http://www.iranhiv.com/epidemiology_iran.htm (accessed on Nov 2008).
6. Anonymous. The status of AIDS in Iran. <http://www.irshafa.ir/post-3841.aspx> (accessed on Dec 2008)
7. Conner EM, Sperling RS, Gelber R, et al. Reduction of maternal-infant transmission of human immunodeficiency virus type 1 with zidovudine treatment. Pediatric AIDS Clinical Trial Group Protocol 076 Study Group. *N Engl J Med* 1994; 331: 1173-80.
8. Anonymous. World Health Organization (WHO). 2006. Antiretroviral therapy of HIV infection in infants and children: towards universal access. Recommendations for a public health approach. NLM classification: WC 503.2. Geneva: WHO. <http://www.who.int/hiv/pub/guidelines/art/en/index.html> (accessed on Dec 2008)
9. Myer L, Robkin M, Abrams EJ, et al. Focus on women: linking HIV care and treatment with reproductive health services in the MTCT-Plus initiative. *Reprod Health Matters* 2005;13: 136-46.
10. Anonymous. Centers for Disease Control and Prevention. Revised recommendations for HIV screening of pregnant women. *MMWR Recomm Rep* 2001; 50: 63-85.
11. Mandelbrot L, Mayaux MJ, Bongain A, et al. Obstetric factors and mother-to-child transmission of human immunodeficiency virus type 1: the French prenatal cohorts. SEROGEST French Pediatric HIV Infection Study Group. *Am J Obstet Gynecol* 1996; 175: 661-7.
12. Nduati R. Breastfeeding and HIV-1 infection. A review of current literature. *Adv Exp Med Biol* 2000; 478: 201-10.
13. Mofenson LM, Lambert JS, Stiehm ER, et al. Risk factors for prenatal transmission of human immunodeficiency virus type 1 in women treated with zidovudine. Pediatric AIDS Clinical Trials Group Study 185 Team. *N Eng J Med* 1999; 341: 385-93.
14. Shapiro DE, Sperling RS, Mandelbrot L, et al. Risk factors for prenatal human immunodeficiency virus transmission in patients receiving zidovudine prophylaxis. Pediatric AIDS Clinical Trials Group protocol 076 Study Group. *Obstet Gynecol* 1999; 94: 897-908.
15. Garcia PM, Kalish LA, Pitt J, et al. Maternal levels of plasma human immunodeficiency virus type 1 RNA and the risk for prenatal transmission. Women and Infants Transmission Study Group. *N Eng J Med* 1999; 341: 394- 402.
16. Anonymous. Mother-to-child transmission of human immunodeficiency virus in Italy: temporal trends and determinants of infection. The Italian Collaborative Study on HIV infection in pregnancy. *Hum Reprod* 1999; 14: 242-6.
17. Anonymous. HIV-infected pregnant women and vertical transmission in Europe since 1986. European collaborative study. *AIDS* 2001; 15: 761- 70.
18. Mofenson LM. Advances in the prevention of vertical transmission of human immunodeficiency virus. *Semin Pediatr Infect Dis* 2003; 14: 295-308.
19. Anonymous. U.S. Department of Health and Human Services. Public Health Service Task Force recommendations for use of antiretroviral drugs in pregnant HIV-1- infected women for maternal health and interventions to reduce prenatal HIV-1 transmission in the United States. 2005. http://aidsinfo.nih.gov/guidelines/perinatal/PER_022405.pdf (accessed on Dec 2008)
20. Dorenbaum A, Cunningham CK, Gelber RD, et al. Two-dose intrapartum/newborn nevirapine and standard antiretroviral therapy to reduce prenatal HIV transmission: a randomized trial. *JAMA* 2002; 288: 189-98.
21. Ioannidis JPA, Abrams EJ, Ammann A, et al. Prenatal transmission of human immunodeficiency virus type 1 by pregnant women with RNA virus loads <1000 copies/ml. *J Inf Dis* 2001; 183: 539-45.
22. Walmsley S. Opt in or opt out: What is optimal for prenatal screening for HIV infection? *CMAJ* 2003; 168: 707-8.
23. Keenan-Lindsay L, Yudin MH. HIV screening in pregnancy. *J Obstet Gynecol Can* 2006; 28(12): 1103-7.

24. Heywood MJ. The routine offer of HIV counseling and testing: a human right. *Health Hum Rights* 2005; 8(2): 13-9.
25. Branson BM, Handsfield HH, Lampe MA, et al. Revised Recommendations for HIV Testing of Adults, Adolescents, and Pregnant Women in Health-Care Settings. *MMWR Recomm Rep* 2006; 55(RR-14): 1-17.
26. Schötklenk U, Kleinsmidt A. Rethinking mandatory HIV testing during pregnancy in areas with high HIV prevalence rates: ethical and policy issues. *Am J Public Health* 2007; 97: 1179-83.
27. Anonymous. World Health Organization (WHO)/Joint United Nations Program on HIV/AIDS (UNAIDS). 2004. Policy Statement on HIV Testing. Geneva: WHO/UNAIDS. <http://www.who.int/hiv/pub/vct/en/hivtestingpolicy04.pdf> (accessed on Dec 2008)
28. De Cock K, Mbori-Ngacha D, Marum E. Shadow on the Continent: Public Health and HIV/AIDS in Africa in the 21st century. *Lancet* 2002; 360(9326): 67-72.
29. Anonymous. HIV testing among pregnant women-United States and Canada, 1998-2001. *MMWR Morb Mortal Wkly Rep* 2002; 51: 1013-6.
30. Kiarie J, Nduati R, Koigi K, Musia J, John G. HIV-1 testing in pregnancy: acceptability and correlates of return for test results. *AIDS* 2000; 14: 1468-70.
31. Anonymous. World Health Organization (WHO)/Joint United Nations Programme on HIV/AIDS (UNAIDS). 2006. WHO and UNAIDS Secretariat Statement on HIV Testing and Counseling. Geneva: WHO/UNAIDS. http://data.unaids.org/pub/ExternalDocument/2007/20070905_rghr_statement_testing_en.pdf (accessed on Dec 2008)
32. Anonymous. World Health Organization (WHO)/Joint United Nations Program on HIV/AIDS (UNAIDS). 2007. Guidance on Provider-initiated HIV Testing and Counseling in Health Facilities. *NLM classification: WC 503.1*. Geneva: WHO/UNAIDS. http://www.who.int/hiv/who_pitc_guidelines.pdf (accessed on Dec 2008)
33. De Zulueta P, Boulton M. Routine antenatal HIV testing: the responses and perceptions of pregnant women and the viability of informed consent. A qualitative study. *J Med Ethics* 2007; 33: 329-36.
34. Rennie S, Behets F. Desperately seeking targets: the ethics of routine HIV testing in low-income countries. *Bull World Health Organ* 2006; 84: 52-57.
35. Clark PA. Mother-to-child transmission of HIV in Botswana: an ethical perspective on mandatory testing. *Dev World Bioeth* 2006; 6: 1-12.
36. Armstrong R. Mandatory HIV testing in Pregnancy: is there ever a time? *Dev World Bioeth* 2008; 8(1): 1-10.
37. Csete J, Elliott R. Scaling up HIV testing: human rights and hidden costs. *HIV AIDS Policy Law Rev* 2006; 11: 1, 5-10.
38. Vermund SH, Wilson CM. Barriers to HIV testing-where next? *Lancet* 2002; 360: 1186-7.
39. Cartoux M, Msellati P, Meda N, et al. Attitude of pregnant women towards HIV testing in Abidjan, Cote d'Ivoire and Bobo-Dioulasso, Burkina Faso. DITRAME Study Group (ANRS049 Clinical Trial). *Diminution de la Transmission Mere Enfant du VIH*. Agence Nationale de Recherches sur le SIDA. *AIDS* 1998; 12: 2337-44.
40. Meadows J, Catalan J. Who do antenatal attenders decide to have the HIV antibody test? *Int J STD AIDS* 1994; 5: 400-4.
41. Royce AR, Walter EB, Fernandez I, et al. Barriers to universal prenatal HIV testing in 4 US locations in 1997. *Am J Public Health* 2001; 91: 727-33.
42. Chou R, Smits AK, Huffman LH, Fu R, Korhulius PT. Prenatal Screening for HIV: a review of the evidence for the US preventive services task force. *Ann Intern Med* 2005; 143: 38-54.
43. Mofenson LM, McIntyre JA. Advances and research directions in the prevention of mother-to-child HIV-1 transmission. *Lancet* 2000; 355: 2237-44.
44. Connor EM, Sperling RS, Gelber R, et al. Reduction of maternal-infant transmission of human immunodeficiency virus type 1 with zidovudine treatment. Pediatric AIDS Clinical Trials Group Protocol 076 Study Group. *N Eng J Med* 1994; 331: 1173-80.
45. Anonymous. Epidemiological country profile on HIV and AIDS. http://www.who.int/globalatlas/predefinedReports/EFS2008/short/EFSCountryProfiles2008_IR.pdf (accessed on Nov 2008).
46. Anonymous. Guidance on global scale-up of the prevention of mother-to-child transmission of HIV. http://www.who.int/hiv/pub/guidelines/pmtct_scaleup2007/en/index.html (accessed on Nov 2008).
47. Maitra N, Kavishvar AB, Dinkar A, Desai VA. Antenatal HIV testing. *J Obstet Gynecol India* 2006; 56(1): 56-8.