Clinical review

HIV/AIDS transmission from mother to child with special attention toward transmission through breast feeding.

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INTRODUCTION

Acquired immunodeficiency syndrome (AIDS) is a leading infectious cause of adult death in the world. Untreated disease caused by human immunodeficiency virus (HIV) has a case fatality, which approaches 100%.[1] The burden of disease is heaviest in Africa. Out of 28 millions deaths due to AIDS world wide at the end of 2002, 70% have occurred in this continent.[2] The first case of AIDS in Pakistan was reported in 1987 in Lahore. Late in 1980-90 it became evident that increasing number of Pakistani men were becoming infected with HIV while living or traveling abroad. The estimated number of HIV/AIDS cases in Pakistan in age 15 to 45 years, by year 2003 was 74,000.[3]

HIV TRANSMISSION

In Pakistan, heterosexual transmission of HIV/AIDS accounts for the majority (37%) of reported cases. Next in frequency are contaminated blood or blood products (18%), followed by injecting drug use (4%), homosexual or bisexual sex (6%), mother to child transmission (1.3%) with 35% unknown.[2] In 1993 first recognized transmission of HIV through breast-feeding was reported in Rawalpindi.[4] HIV seropositivity among the professional blood donors and individuals with high-risk behaviors has been reported to be between 0.6-0.9% in Pakistan.[5]

KNOWING HIV STATUS DURING PREGNANCY

To determine HIV status is one of the main pillars of antenatal care. The **'3Cs'** of HIV testing consists of **C**onfidentiality, **C**ounseling and informed **C**onsent.[3] If the women is HIV positive, she should be explained that she can transmit the virus to her partner and should use condoms during every sexual act. If her partner status is unknown, she should be counseled on the benefit of testing her partner. Importance of avoiding re-infection during pregnancy should be emphasized as risk of infecting the baby is higher if the mother is re-infected. If the women is HIV negative, she should be counseled to remain negative during pregnancy and breast-feeding and advised to use condoms. If her partner status is unknown, she should be counseled on the benefit of testing her partner.

VOLUNTARY COUNSELING AND TESTING

Proportion of adults needing voluntary counseling and testing (VCT) who received it range from almost none in South-East Asia, to 7% in sub-Saharan Africa and 1.5% in Eastern Europe.[6,7] VCT is used to determine the HIV status of an individual and this is voluntary, meaning that woman has right to refuse. VCT should include pretest counseling, blood testing and post-test counseling.

CONFIDENTIALITY IN HIV TESTING

Under the ethical principle of beneficence defined in the Belmont Report, it is recommended that disclosure of HIV status be through voluntary counseling and testing; however, whenever possible, copies of consent form should not specify HIV status.[8]
If test result is positive, the woman should be explained that she has the infection and has 40% chance to transmit to her unborn children. If test result is negative, either she is not infected with HIV, or she is but has not yet made antibodies again the virus (Window period). Repeat HIV testing can be offered after three months and she should be counseled on the importance of staying negative by correct and consistent use of condoms.

COUNSELING HIV POSITIVE WOMAN ON FAMILY PLANNING

In a study in USA, family planning clients and providers showed a remarkable understanding when given tailored information that was more close to clients' situations and more often discussed HIV/AIDS prevention, dual protection and condom use.[9]

In family planning several issues should be highlighted. Pregnancies can lead to transmission of HIV to baby, miscarriage, pre-term labour, stillbirth, low birth weight, ectopic pregnancy and other complications. Two to three years gap between pregnancies is healthier for her and her baby. Not all methods of contraception are appropriate for the HIV positive woman. Intrauterine device method use is recommended only if other methods are not available or acceptable. Fertility awareness method may be difficult if woman has AIDS or in treatment for HIV infection, due to changes in the menstrual cycle and elevated temperatures. If woman is taking pills for tuberculosis (rifampicine), she usually can't use contraceptive oral pills, monthly injectables or Norplant's. HIV positive woman may not choose exclusive breast feeding and lactational ammnenorhea method may not be a suitable method.

EMOTIONAL SUPPORT TO WOMAN

A study in USA examined the role of psychological factors as mediators of the impact of HIV-related stressors on emotional distress of a clinic-based sample of 264 HIV positive women. The findings indicated that these women think about HIV-related stressors is an important factor that may account for individual variability in the ability to maintain a sense of subjective well being in the face of a devastating fatal disease.[10]

Therefore, stress must be addressed with every HIV positive woman. One need to empathize with her concern and fears and use good counseling skills.

She need to connect with other existing services including support groups, income generating activities, religious support groups, orphan care and home care services.

Advice need to be provided on drug treatment, safer sex, infant feeding and family planning. If the woman has signs of AIDS and/or terminal illness, referral to appropriate services be made.

ADVICE ON ANTIRETROVIRAL TREATMENT

Several South American countries have universal coverage for antiretroviral therapy including Argentina, Brazil, Cuba, Mexico and Uruguay.[11] Several other cover two third of people in need including Barbados, Colombia, and Costa Rica.[7] But HIV therapy is expensive.[12] Prophylactic HIV treatment should therefore be advised to HIV positive woman the drugs have been shown to greatly reduce the risk to the baby. However, she needs to attend antenatal care regularly and deliver with skilled attendant preferably in a hospital.

COUNSELING ON INFANT FEEDING

The risk of HIV transmission is through breast-feeding and not breast-feeding by itself. Five out of 20 babies born to known HIV positive mothers will be infected during pregnancy and delivery without medication. Breast-feeding may infect three more.
If a mother knows and accepts that she is HIV positive, she has options to use formula feeding or breast feeding. If mother chooses replacement feeding, she can eliminate the he risk of transmission of HIV through breast feeding. A suitable formula is a commercial infant formula or home modified animal milk. Mortality is high for both uninfected and infected infants born to HIV infected mother and may not be associated with mode of feeding.[13] If mother chooses breast-feeding, one needs to ensure good attachment and suckling to prevent mastitis and nipple damage. She should be advised her to return immediately if she has breast symptoms/signs or the baby has any difficulty in feeding. A visit in first week to assess attachment and positioning and the condition of the mother breasts is advisable.

CONCLUSION

Mother to child transmission of HIV has created more challenges to the clinicians and health planners. Transmission of the virus through breast-feeding is well documented. There is need for more cooperation, UN assistance, community involvement, awareness of women in the child bearing age about HIV/AIDS, and further research is in order to reduce HIV transmission through breast feeding.

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