UNIT 3 MOTHER TO CHILD TRANSMISSION OF HIV

Content

3.0 OBJECTIVES

The aim of this unit is to provide awareness and knowledge related to transmission of HIV from a mother to her child. The unit also provides the present scenario about Mother to Child Transmission (MTCT) as well as discusses some of the ethical issues related to MTCT.

After reading this unit you will be able to:

- state the present scenario of mother to child transmission of HIV;
- describe various means of mother to child transmission;
- analyse the ethical issues involved with mother to child transmission; and
- discuss various methods of prevention involved in mother to child transmission of HIV.

3.1 INTRODUCTION

Women, because of their social and sexual subordination are disproportionately affected by the epidemic in many societies. The inabilities of women to control the factors at risk, place them at risk of HIV infection and are compounded by the fact that many societies define the social and cultural identity of women primarily through their role as child-bearers.

So, whenever, we discuss mother-to-child-transmission, we have to look at the problem in a broader perspective and not in a compartmentalized way. Broader perspective includes role of husband, societal pressure, norms, and values and above all her own rights over the sexual act as well as right over her body and family pressures.

3.2 EXTENT OF HIV INFECTION AMONG WOMEN OF CHILD BEARING AGE

There are millions of women of childbearing age through out the world who are HIV positive. Among these women who are pregnant, the highest rates of infection have been reported from Sub-Saharan Africa. In urban centers in Southern Africa, HIV rates among pregnant women tested anonymously at antenatal clinics was found to be between 20-30 per cent. Rates above 40 per cent to 59 per cent and even 70 per cent have been recorded in Botswana and parts of Zimbabwe. According to UNAIDS, there are very few places outside Sub-Saharan Africa in which the prevalence of HIV infection among pregnant women has reached 10 per cent.

Figures form UNAIDS also show that the risk of infection is increasing among women everywhere both in developed and developing countries alike. In a period of ten years from 1985 to 1995 the incidence increased among women in varying degrees. For example, in France, it increased from 12 per cent to 20 per cent. In Spain, it rose from 7 per cent to 19 per cent. In Brazil the proportion rose from just 1 per cent in 1984 to 25 per cent ten years later. However, with improved medication and prevention strategies, the infection rate is under control to a great extent.

Furthermore, in the worst affected countries, the virus is spreading fast among young people below the age 24 years. Studies sponsored by UNAIDS among the youth show that the incidence of HIV infection among girls is higher than among boys. In Kenya one in four girls was infected with HIV when compared to one in twenty five among boys. Similarly among the youth in Zambia the ratio is 16:1 (girls: boys) and in Uganda it is6:1.

In 1998, one in ten of all infected was a child, and the vast majority of them acquired the virus from their infected mothers. Africa has the highest prevalence of HIV-positive children. Though Africa accounts for only 10 per cent of the world's population, 90 per cent of the world's HIV infected children are found in Africa. This is largely a consequence of high fertility rates combined with very high levels of HIV infection among women of reproductive age group. Over 5 million children below the age of 15 years have been infected with HIV since the AIDS epidemic began and more than 3.8 million of them have died of AIDS as of December, 1999.

Consequence of High Level of Infection

The effects of the epidemic among young children are serious and far-reaching. AIDS threatens to reverse years of steady progress in child survival achieved through such measures as the promotion of breast feeding, immunization and oral rehydration. UNAIDS believes that by the year 2010, AIDS may have increased mortality of children under 5 years of age by more than 100 per cent in regions most affected by the virus. In a number of countries, AIDS is now the biggest single cause of child death. The trend is already clear. In Zimbabwe the death rates among infants in their first year of life increased from 30 to 60 per thousand between 1990 and 1996. The deaths among one to five years olds, (the age group in which the bulk of child AIDS deaths are concentrated) rose even more sharply. It rose from 8 to 20 per thousand during the same period.

Implications for India

With 27 million pregnancies a year and an overall estimated 0.3 per cent prevalence rate of HIV infection among pregnant women, it is estimated that about 1,00,000 HIV infected women deliver every year. Using a conservative vertical transmission rate of 30 per cent, about 30,000 infants acquire HIV infection every year. The life span of a child infected by HIV infection is lower than that found in adults. Thus HIV infection may increase health care expenditure both in public and at family level. Increasing number of children infected by HIV has a propensity to alter the mortality rates in childhood. The effects of the epidemic among young children are serious and far reaching. AIDS threatens to reverse years of steady progress in child survival, and has already doubled infant mortality in the worst affected countries.

In India, the high HIV prevalence States coincide with those states that are doing better in terms of health indicators and development, in general. The less developed and more populated states, in the north and the central part of the country are so far classified as "low HIV prevalence States". These States reveal a variety of vulnerability factors which can fuel the spread of HIV epidemic such as wide socio-economic inequity leading to high degree migration particularly towards metropolitan cities where HIV prevalence is high among "at risk" individuals, inadequate infrastructure in health and social services, illiteracy, low women empowerment, low school enrollment limited, access to information etc. the degree of success in programmatic response by these states would determine the spread of HIV and its impact on health indicators including development in the near future. Currently, India has overall low prevalence of HIV among pregnant women in many parts of the country. The challenge for future is how to keep the prevalence of HIV infection among women low and reduce mother to child transmission.

Check Your Progress I

Note: Use the space provided for your answers.

1) Briefly describe the extent of HIV infection among children.

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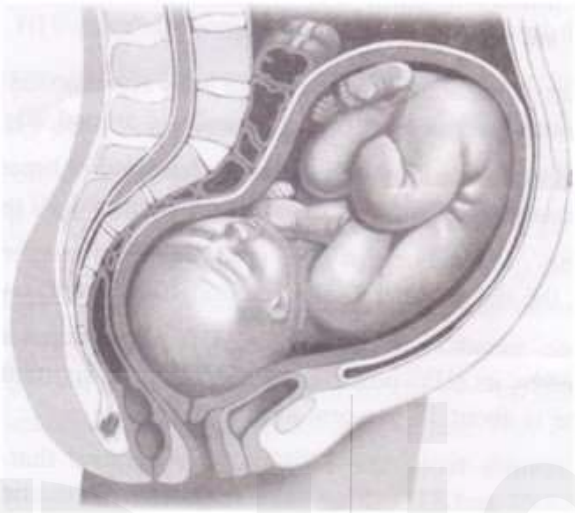
3.3 WAYS OF TRANSMISSION AMONG CHILDREN

HIV can be transmitted from mother to child in three ways. It can occur in the womb, at the time of delivery and also when the child is breast-fed.

Womb

Throughout the period of pregnancy, mother is capable of infecting the foetus. Foetus receives nutrition from the mother through the placenta (before birth). When the mother has a high viral concentration in the blood, some of the virus can pass from the mother to the foetus through the placenta. It is seen throughout the period of pregnancy. A small number of foetus gets infected through this route.



At the Time of Birth

The lining of the birth canal (vagina) contains a high concentration of HIV. The baby may sustain minor cuts in the mucus membrane and in the skin during the process of birth. Hence, the baby can get infected. It has been also shown that the maximum chance of infection of the foetus occurs during the time of delivery. A significant per cent of children born to HIV mothers become infected at the time of delivery.

Breast Milk

About 14 per cent of children who are breast-fed by the HIV infected mothers will contract the infection. Hence, practices which change breast-feeding reduce HIV transmission.

Check Your Progress II

Note: Use the space provided for your answers.

1) What are the three ways of HIV transmission from mother to child?

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3.4 THE RISKS OF MOTHER-TO-CHILD TRANSMISSION (MTCT)

The rates of mother-to-child transmission of HIV under different circumstances are as follows:

1) Where no drugs are administered and the baby is breast-fed by its HIV-positive mother the risk of infection generally is around 30-35 per cent.
2) Where no drugs are administered and the baby is not breast-fed by its HIV-positive mother, the risk of infection is around 20 per cent;
3) Where a one- month course of AZT is administered and the baby is not breast-fed, the risk of infections is around 10 per cent; and
4) Where a one- month short course of AZT is administered and the baby is breast-fed by its HIV- positive mother, for up to six months, the risk of infection is about 18 per cent at that age.

Preliminary results from the PETRA study show that when two antiretroviral, AZT and 3TC, drugs are administered at the time of labour and to mother and baby for one week following delivery, the risk of infection chance that the baby will be HIV infected at six weeks of life, with breast-feeding if it is being breast-fed by its mother is around 11 per cent. If the drugs are given for approximately one month from the 36^{th} week of pregnancy, continued in labour and given for a further week after delivery – the chances of the baby being infected or risk of infection at six weeks of life, when the baby is being breast-fed is around 9 per cent. Further follow up will show what the respective raters of infection are at 6, 12 and 18 months, if breast-feeding is maintained. This will only be known when the data from follow-up of the PETRA trail are complete. (It may be noted that all medication are to be done only on prescription by a qualified physician and not based on information given in IGNOU SIM).

Apart from these variations, there is a great amount of variation between developed and developing countries. The rate is higher in developing countries than developed countries. Evidence suggests that the risk of transmission is increased when mother has a higher viral load (this is the case when a person is newly infected with HIV or is in an advanced stage of disease) or if the baby is highly exposed to the mother's infected body fluids during birth.

The difference in risk between developing and developed countries is largely due to feeding practices: breast-feeding is more common and is usually practiced for a longer period in developing countries than in the industrialised or developing world. It is estimated that a child born uninfected to an HIV positive mother has a one in five chance of acquiring the virus from her milk if it is breast-fed. In places where breast-feeding is the norm, this route may account for more than one-third of mother-to-child transmission.

35 ISSUES RELATED TO MOTHER-TO- CHILD TRANSMISSION

There are various issues related to mother-to-child transmission, which are still debatable. Some of the debatable issues are:

1) Whether HIV positive women should be encouraged to have a child or not?
2) Whether HIV-positive mothers should not breast-feed their infants?

3) Should every person undergo HIV counselling and testing routinely?

4) Should HIV positive men and women marry among themselves or not?

We will discuss all these issues in detail. The purpose of the discussion here is not to give any judgment. Our aim here is to present both sides of the issue and leave the discussion to the people concerned.

1) Should HIV- positive women be encouraged to have children or not?

It is every woman's fundamental right to decide for herself, without coercion, whether she should have children or not. This is enshrined in the International Human Rights Conventions. It is the responsibility of the Government and health services to provide HIV- positive women and their partners with comprehensive information and education about the risks associated with child bearing as part of routine public information about HIV/AIDS. The health services should ensure that they have real choices of action and respect and support the decisions that they reach.

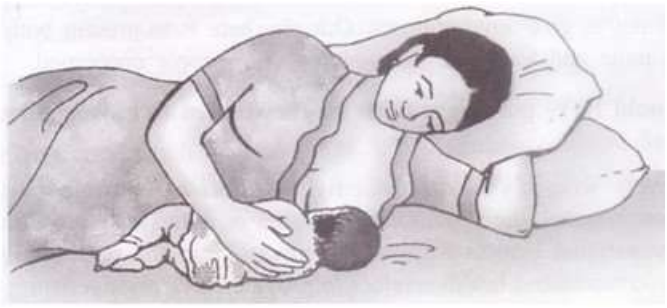
NACO in its policy 5.8.3 states that HIV positive women should have complete choice in making decisions regarding pregnancy and child birth. There should be no forcible abortion or even sterilisations on the grounds of HIV status of the women. Proper counselling should be given to the pregnant women for enabling her to take an appropriate decision either to go ahead with or to terminate the pregnancy.

Infant Feeding

Best practice as recommended by UNICEF and supported by NACO will be disseminated. Clear advice and support of feeding options should be given to HIV positive women. This will need appropriate training of the counselors and health care workers. Training will include breast-feeding counselling, complementary feeding, infant feeding in MTCT, and replacement feeding options. Messages will be consistent with the related programme of Reproductive and Child Health (RCH) of the department of Family Welfare. The aim of such counselling should not be just giving of information, but to empower the mother to assess the appropriateness of the alternatives to her specific situation. Every effort should be made to promote exclusive breast-feeding upto four months in HIV positive mothers followed by weaning and complete stoppage of breast-feeding at 6 months in order to restrict transmission through breast-feeding. However, such mothers will be informed about risk of transmission of HIV through breast milk.

2) Whether HIV- positive mother be told to breast-feed her baby?

Breast-feeding has been the corner stone of child health and survival strategies for the past two decades and has played a pivotal role in reducing infant mortality rate in many countries. Even in the era of HIV/AIDS, breast-feeding remains the best possible nutrition for the great majority of babies. As against this there is another view. You may recall that the transmission of HIV through breast milk is about 14 per cent. If the mother has received prophylaxis to prevent mother to child transmission, then it is illogical to recommend breast-feeding.



There are many reasons why such advice may not necessarily be appropriate and might indeed be dangerous. The cost of infant formula supplements is often beyond the means of poor families in developing countries, even when it is widely available. Besides, many people lack easy access to the knowledge, safe clean water and fuel needed to prepare replacement feeds safely or simply have no time to prepare them. If it is used incorrectly i.e. mixed with dirty, unsafe water, a breast milk substitute may lead to infection, malnutrition and even death. Breast-feeding suppresses ovulation and delays the return of a woman's fertility. A mother who does not breast-feed her baby loses the natural contraceptive effect and is the increased risk of getting pregnant again too soon.

In August 1997, WHO, UNICEF and UNAIDS issued a joint policy statement on HIV and infant feeding. They subsequently prepared guidelines to help national authorities, to implement the policy. These documents emphasize that it is the individual mothers right to decide how she will feed her child. Any attempt to influence her decision, no matter what the circumstances or motives, is an abuse of her human rights and freedom of choice. The responsibility of people who counsel HIV- positive women about infant feeding is to give them all the available information on the risks associated with breast-feeding. They should be educated about substitutes to breast-feeding. They also have to discuss the feasibility, pros and cons of alternative feeding methods in the light of personal circumstances. They also have to give them appropriate support for the course of action they choose.

3) Confidential Counselling and Testing

Whether each and every reproductive population should undergo confidential HIV counselling and testing or not is an ethical consideration. This is very much essential, as it becomes a global concern in terms of its magnitude and severity. It is very much needed for pregnant and married women and their male counterpart.

For pregnant, women to take advantage of measures to protect their off spring from HIV infection they need to know whether or not they are infected. Hence, voluntary counselling and testing services are an essential part of any programme for the prevention of mother-to-child transmission of HIV. Ideally, however, every one should have access to such services since there are clear advantages to know one's sero-status. People who know they are HIV infected are likely to be motivated to look after their health, perhaps with behaviour and life-style changes and to seek early medical attention for problems. They

can take wise decisions about sexual practices, child bearing and infant feeding and be steps to protect partners who may still be infected. And those whose test results are negative can be counselled about how to protect themselves, their partners and their children from infection.

Furthermore, voluntary counselling and testing has an important role to play in unmasking the silent epidemic and reducing the hysteria of and fear surrounding AIDS. At present UNAIDS estimates that around 90 per cent of people with HIV are unaware of their status. Efficient, widely accessible and user friendly testing services can help societies recognize and come to terms with the fact that there are many people living with HIV who show no out word signs. This in turn encourages commitment to prevention.

It is still common for women to be blamed for spreading sexually transmitted diseases, including HIV, despite the fact that very often they are infected by the husbands or partners to whom they are entirely faithful. Voluntary counselling and testing that involves the partners of the pregnant women, where this is feasible and desired, can play a vital part in challenging this pervasive prejudice.

4) Whether HIV-positive men and women can marry among themselves or not is another debatable question?

As far as rights of a human being is concerned, HIV-positive men and women may marry among themselves. The existing trend, shows that several infected people choose to get married and live together. The main risk factor is pertaining to their choice for having their own biological child. Morally and ethically, it may not be appropriate for an HIV positive couple to go for a biological child. There are every possibilities for the child to be born with HIV virus. Further, such children may not get a healthy environment to grow and lead a normal life as its own parents are not healthy. Such couples require appropriate counselling.

Check Your Progress III
Note: Use the space provided for your answers.

1) Explain briefly any two issues related to mother-to-child transmission?

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3.6 PREVENTION STRATEGIES

There are three complementary strategies for preventing mother-to-child transmission of HIV. They are:

1) The Protection of Girls and Women from HIV Infection

This will minimize the number of women of childbearing age who are carrying the virus. This strategy is sometimes referred to as "primary prevention". It involves promoting safe and responsible sexual behaviour among couples, providing them with knowledge about HIV/AIDS and how to prevent infection. It also means providing treatment programs for sexually transmitted diseases (STDs), the presence of which increases the risk of HIV transmission as much as 6-10 fold. Steps have to be taken to deal with the cultural, legal and economic factors that make girls and women especially vulnerable to HIV infection by limiting their autonomy and power to protect themselves.

2) Provision of HIV Counselling and Testing

An integrated package of measures consisting of Voluntary HIV counselling and testing will enable the target population to know their HIV status well in advance. It will also enable them to adopt preventive measures. Every detection will also help victims to seek medical intervention. This is a secondary prevention measure on early detection.

3) Antiretroviral Prophylaxis

The provision of antiretroviral drugs for HIV-positive pregnant women (and sometimes their babies), counselling on infant feeding, and support for the feeding method(s) chosen by the mother. This package is often referred to as the antiretroviral drug strategy.

In cases where a mother knows she is HIV-positive and gives birth without refrain from breast-feeding, counting on the two-to-one chance that her baby has avoided infection in the womb or during child birth. But, if she chooses this course of action she should be made aware of the fact that she will lose the natural contraceptive effect of breast-feeding and be at increased risk of becoming pregnant unless she takes alternative precautions.

Other Prevention Methods

An infant who requires mother's milk should be given only its own mother's milk. There are hospitals in the country where human milk banks operate. Until and unless the milk collected in these milk banks are tested for HIV with the PCR, it will be risky to feed the child with such milk.

It is also the practice in some village communities and in joint families/extended families to feed infant by any of the lactating mothers if the infant's mother is unable to do so after a caesarean section. In some cases, the mother may be away at work place (farm) and other lactating mothers may breast-feed the child. In several cases, orphan infants whose mothers die during labour or soon after delivery are also breast-fed by any of the lactating and willing woman around the household village. In all such cases, one should ensure the HIV status of the woman who might breast-feed the child.

There are also possibilities of an HIV infected child infecting a woman who may breast-feed it if in case there are cuts around the nipple (breast nipple). Therefore, people should be adequately informed about the need to know the HIV status of the infants.

There are also drugs available which can reduce the chances for a foetus from getting infected. Therefore, HIV positive pregnant woman need to seek medical opinion and treatment under a qualified physician. It has been observed in several advanced countries that proper treatment can reduce the chances for foetus from getting infected form its HIV positive mother. The need of the hour is to educate the entire population about it, because support is necessary from the entire family.

Another important precaution to help an infant from being getting infected is to see that its HIV positive mother opts for a caesarean section instead of a normal delivery. A normal delivery can cause HIV transmission to the infant during its passage through the birth canal which is tight while, the baby's body is too delicate. Therefore, one should try every possible option available to help an infant from avoiding infection with HIV.

3.7 LET US SUM UP

One of the cracks and crevasses of society's inequality is vulnerability and susceptibility of women towards HIV-virus. Women because of their social and sexual subordination are disproportionately affected by the epidemic. In the next subsection we examined the extent of HIV infection. Among the women who are pregnant, the highest rates of infection have been reported for sub-Saharan Africa. This wide extension of HIV has various repercussions. AIDS threatens to reverse years of steady progress in child survival achieved through such measures as the promotion of breast-feeding, immunization and oral rehydration.

Mother-to-Child transmission occurs in three ways. These are from the womb, at the time of birth and through breast-feeding. We discussed also how these transmissions occur at various stages. In this unit we also analyzed the rates of mother-to-child transmission of HIV under the different circumstances.

There are various issues related to mother-to-child transmission, which are still debatable. Some of the debatable issue are: whether HIV positive women should be encouraged to have a child or not: if alternative feeding is available; whether each and every woman and man should undergo HIV counselling and testing or not; and whether HIV positive men and women should marry amongst themselves or not etc. At the end of the unit some of the preventive strategies were discussed very briefly.

3.8 SUGGESTED READINGS

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