

PROGRESS IN PREVENTION OF MOTHER-TO-CHILD TRANSMISSION OF HIV IN UKRAINE: SITUATION IN LVIV REGION

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Background

- HIV-infected Ukrainian population is increasing and is one of the most prominent in Europe.
- As estimated 410 000 persons have HIV/AIDS in Ukraine (2005)
- 49% of HIV persons are women 15-49 years old
- Sero-positive prevalence among pregnant women rose from 0.12% (1998) to 0.34% (2004)

(Ministry of Health of Ukraine, Ukrainian HIV/AIDS Centre, WHO, International HIV/AIDS Alliance in Ukraine, UNAIDS. Kyiv, 2006)

Background

- Prevalence of HIV among pregnant women in Ukraine is 0.31% - one of the highest in Europe
- Prevalence is highest (above 0.8%) in Chernihiv, Donetsk, Odesa, Dnipropetrovsk, Mykolaiv regions

(International HIV/AIDS Alliance in Ukraine, Kyiv, 2008)

Background

- Number of children delivered by HIV-infected women reached 18 000 in Ukraine - 3449 were born in 2008

(International HIV/AIDS Alliance in Ukraine, Kyiv, 2008)

Prevalence and rate of spread of HIV infection is known to be relatively lower in Lviv region in the West of Ukraine.



The focus of this presentation is on the perinatal HIV transmission in Lviv region and the influence of mother-to-child transmission prophylaxis.

Materials and methods

- In the Lviv region, prophylaxis and surveillance of mother-to-child HIV transmission started in 2000
- Pregnant women were tested twice for HIV - antiretroviral prophylaxis was offered to those HIV-positive. They also were advised not to breastfeed.

Materials and methods

During 2001-2007 years 3 different protocols of mother-to-child transmission (MTCT) prophylaxis subsequently were implemented:

1. zidovudine (ZDV) starting at 36 weeks of gestation (introduced in 2001, **protocol 1**),
2. nevirapine (NVP) to mother and child (introduced in 2003, **protocol 2**) and
3. ZDV prophylaxis starting at 28 weeks of gestation combined with NVP if started later (introduced in 2005, **protocol 3**).

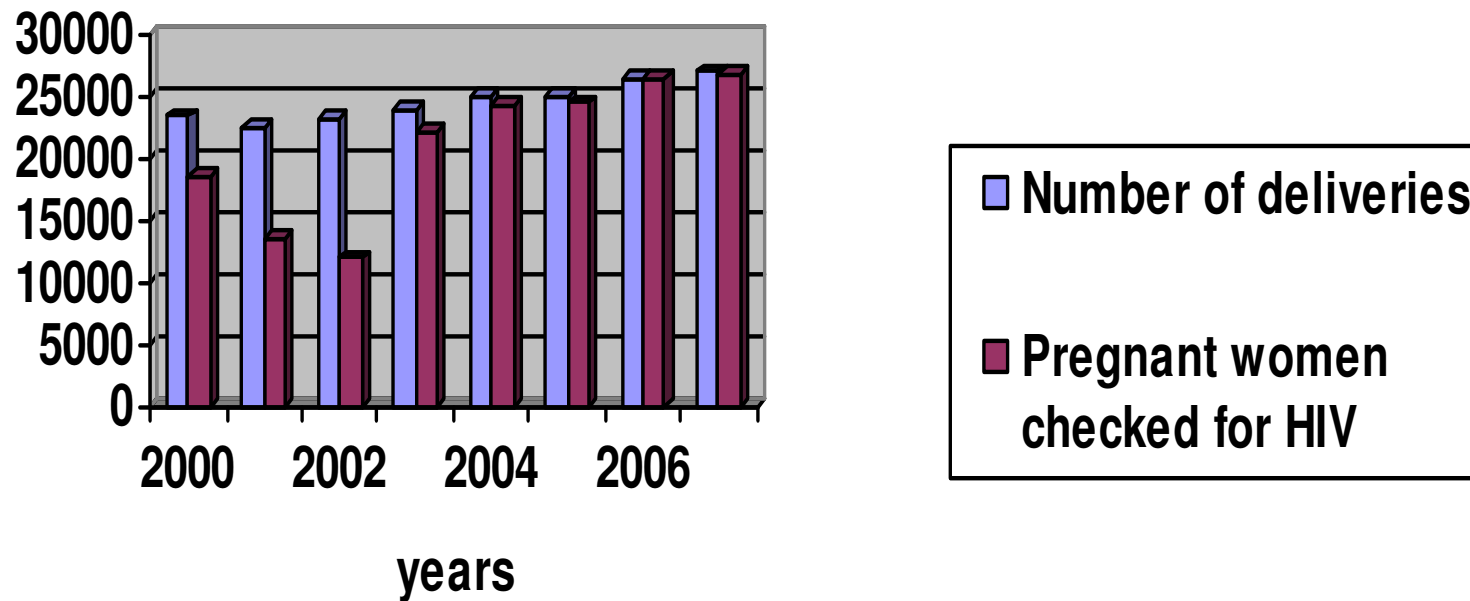
Materials and methods.

- Antiretroviral prophylaxis with zidovudine and nevirapine was applied in accordance with national guidelines.
- Elective cesarean section was performed in HIV-infected women since 2005
- Mother-to-child transmission rate was evaluated. HIV infection was confirmed with immunoblotting and/or PCR.

Results

- In 2000 in Lviv region 3 HIV-infected women delivered 3 HIV-negative babies
- In 2007 74 HIV-positive pregnancies completed with deliveries which was 0.28% of 26831 annual deliveries
- Proportion of pregnant women tested for HIV increased from 79.5% in 2000 to 99.8% in 2007.

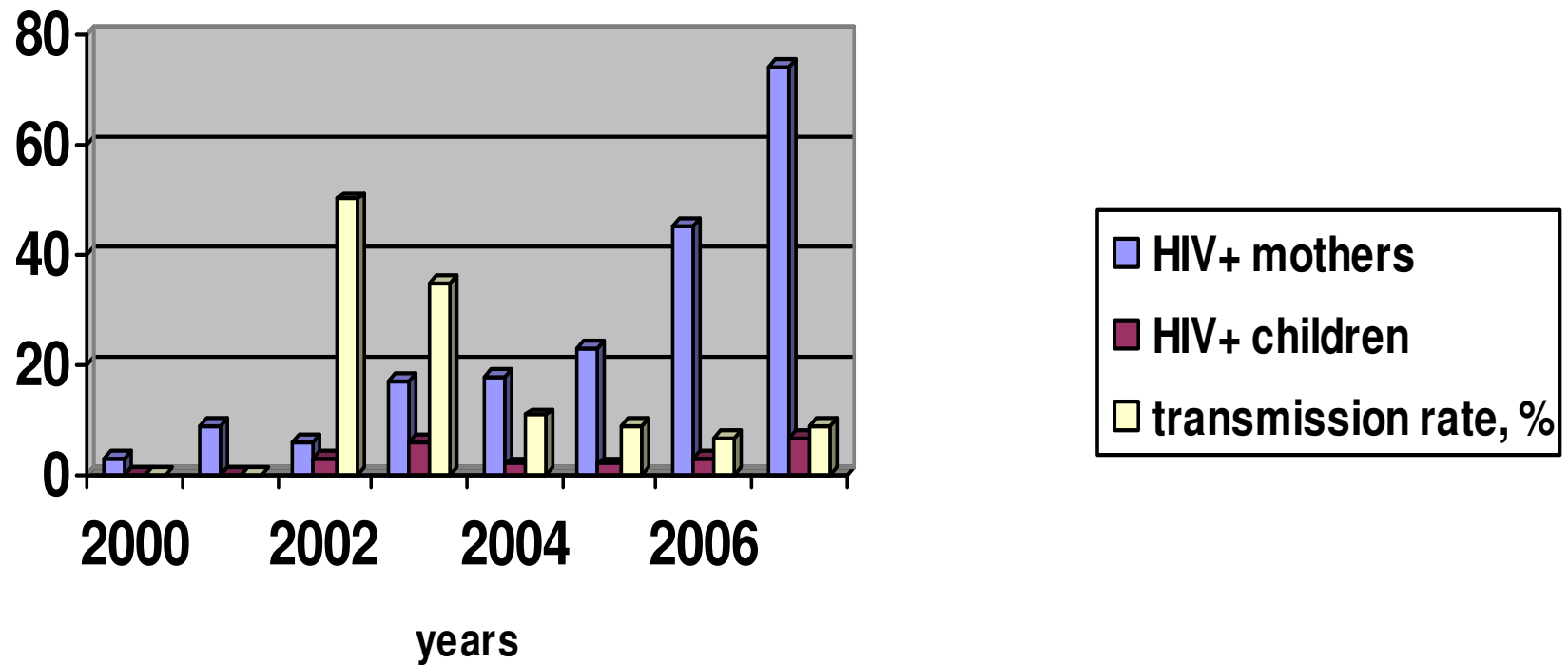
Fig. 1. Number of deliveries and HIV tested pregnant women in Lviv region of Ukraine



Results

- One cesarean section was performed in the case of HIV-infection in 2005 (4.35% of HIV-positive deliveries) and 10 (13.5% of HIV-positive deliveries) in 2007.
- Overall mother-to-child transmission rate decreased from 50.0% (3 babies of 6 HIV-positive pregnancies) in 2002 to 9.5% (7 of 74) in 2007.

Fig. 2. Number of HIV+ mothers, their children and MTCTR in Lviv region of Ukraine



Results (a)

- Without perinatal antiretroviral prophylaxis MTCTR was 30.0%
- Only two mothers with their babies were designated to protocol 1 and both infringed it. Nevertheless both children remained HIV negative
- There was no significant difference in the overall efficiency of protocols 2 and 3. MTCTR was 12.20% for mothers and children designated to protocol 2 and 11,0% for mothers and children designated to protocol 3

Results (b)

- Relative risk decrease of MTCT of HIV appeared to be 59.18% with ARV protocol 2 and 59.71% with ARV protocol 3
- Treatment of 5.6 pregnant women and their children was required to prevent 1 case of MTCT of HIV (either with protocol 2 or protocol 3)

Results (c)

- Mother-to-child transmission rate was much lower (as low as 1.59%) among mothers and their children who strictly followed the prophylaxis protocol
- RR of infringement of protocol using nevirapine prophylaxis was 11.3(1.4-86.5) and of infringement of protocol using ZDV and nevirapine - 22.5(3.0-167.3)

Conclusion

- Quality of surveillance and prophylaxis of perinatal HIV transmission improved significantly during the last 8 years in Lviv region.
- The proportion of pregnant women checked for HIV is approaching 100%.
- Mother-to-child transmission rate is slightly higher than average in Ukraine (8.2% in 2004)
- Efforts should be aimed at avoidance of prophylaxis protocol infringement.