Surveillance of children perinatally exposed to HIV

Interim results from the National Registry of pregnant women infected with HIV and of perinatally exposed children

1. WOMEN& HIV IN EUROPE 2013

Young women and HIV – the statistics

'Young people' are defined as those aged 15-24 years[1]

Globally, there are over **five million** young people living with HIV[2]

In sub-Saharan Africa, HIV prevalence among young women is more than **twice** as high as among young men[1]

Over 60% of all young people living with HIV are young women[2]

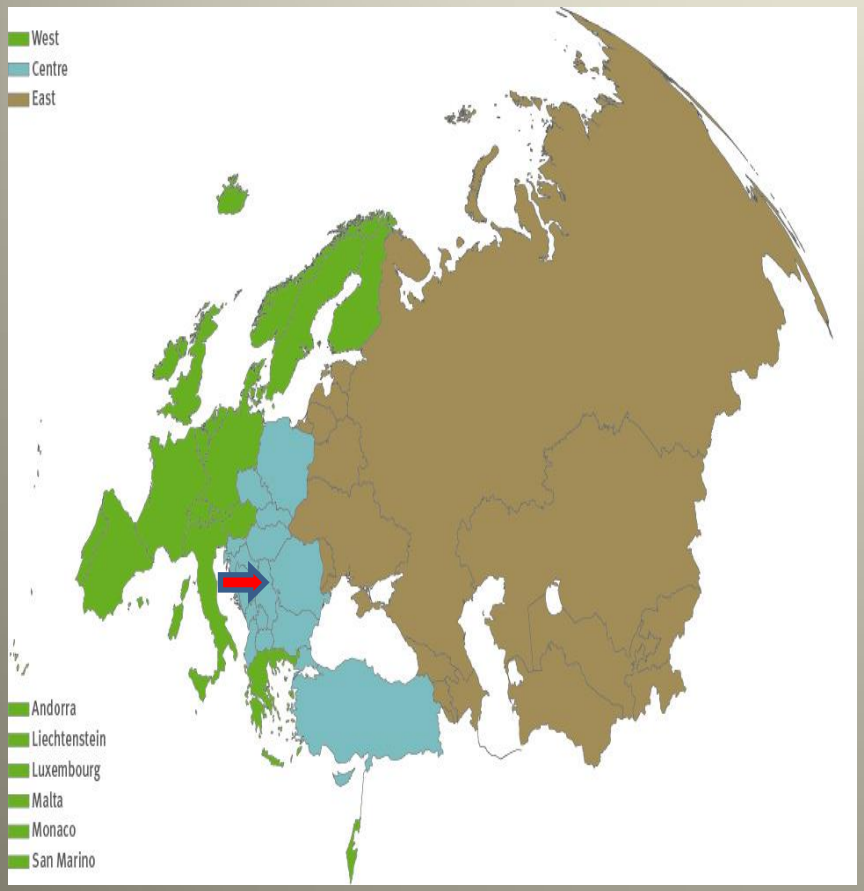
Every hour, **50** young women contract HIV[3]

Young women with HIV can now be expected to have a near normal life expectancy[4]

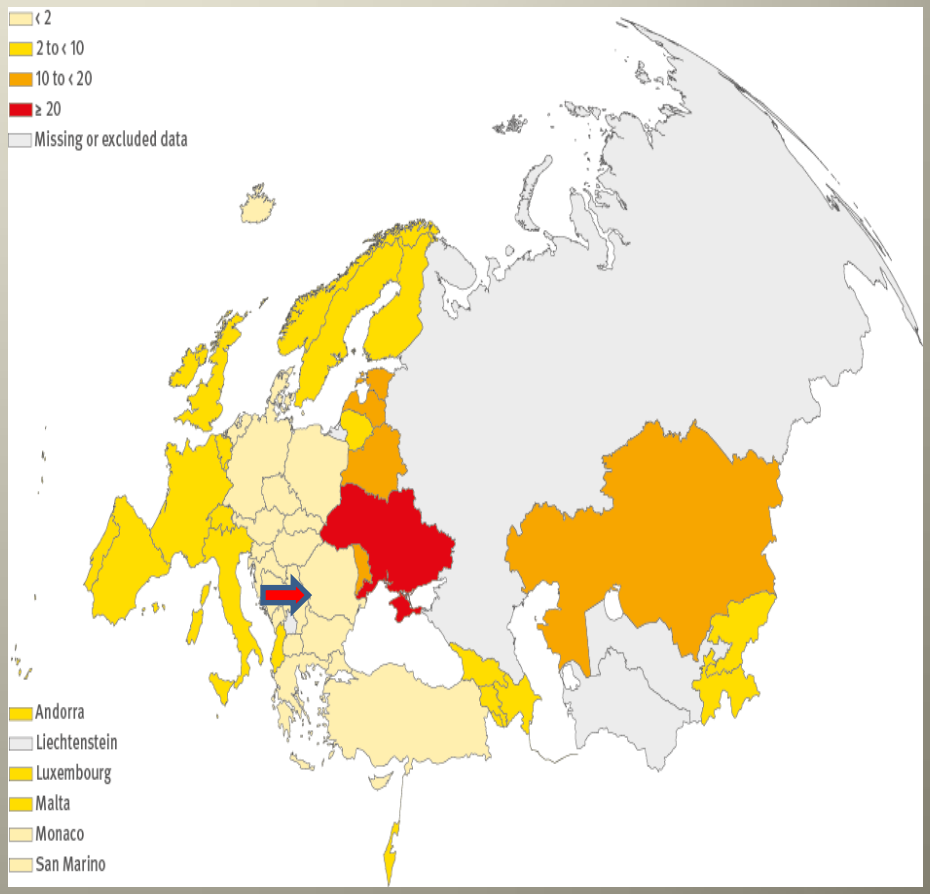
1. UNAIDS, 2013; 2. UNAIDS, 2012;
3. UNAIDS AIDS by the numbers, 2013; 4. Hogg, 2013

Epidemiology/ key population /trends
WHO European Region 2004- 2013

Geographical/epidemiological division of the WHO European Region



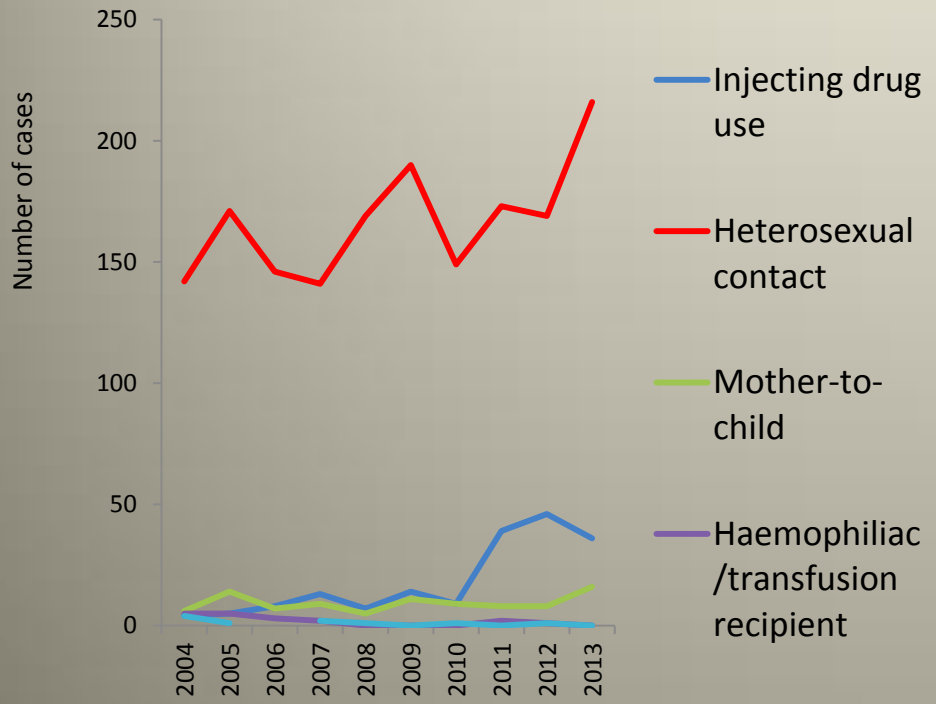
New HIV diagnoses in females, 2013
Rate per 100 000 female population



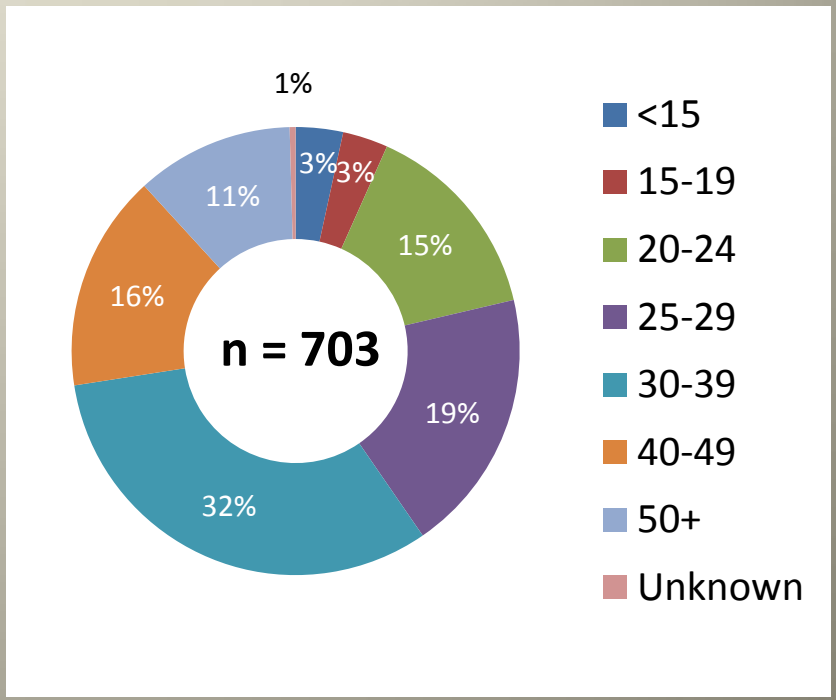
Source: ECDC/WHO (2014). HIV/AIDS Surveillance in Europe, 2013

Epidemiology/ key population /trends
WHO European Region 2004- 2013

HIV diagnoses among all females by route of transmission, Central Europe, 2004-2013



HIV diagnoses among females, by age group, Central Europe, 2013

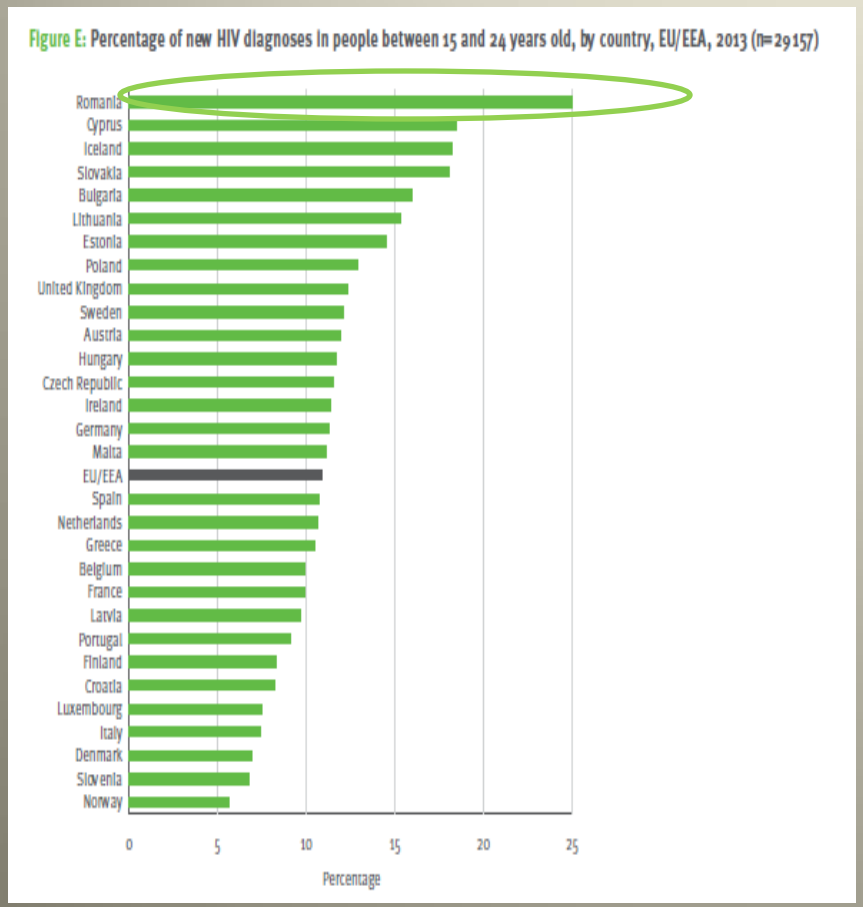


Cases from Poland and Turkey excluded due to incomplete reporting on transmission mode during part of the period

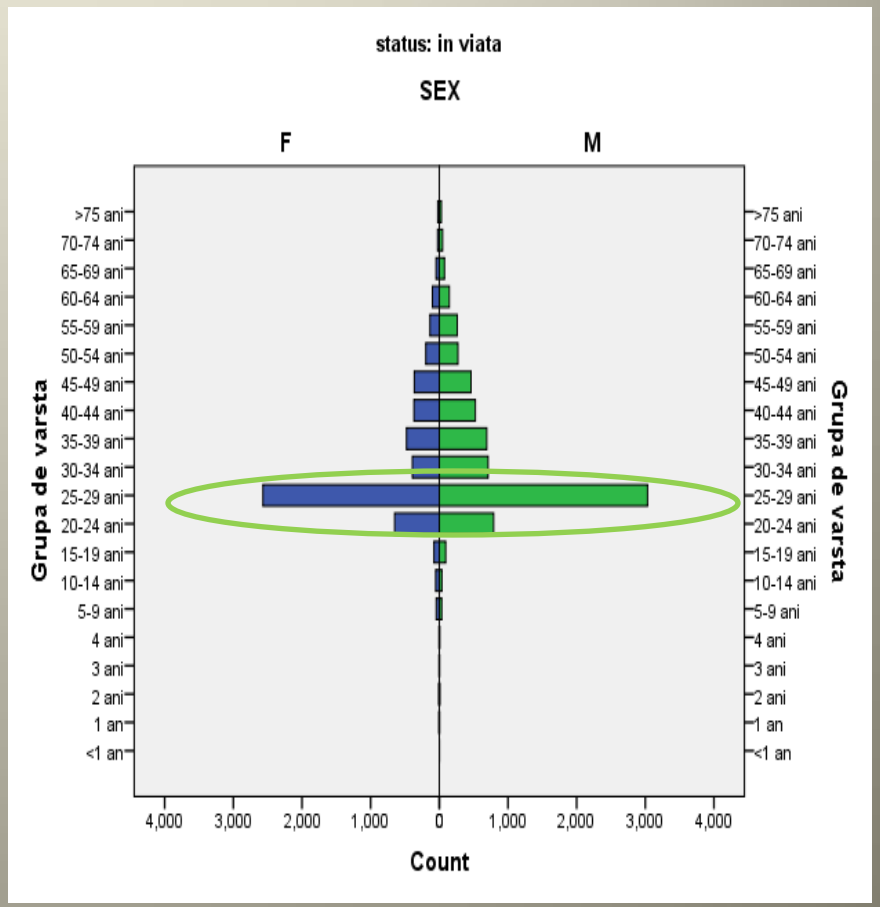
2. Women&HIV in Romania

Epidemiology/trends in the WHO European Region and in Romania 2014

Percentage of new diagnoses in the 19-24 age group, by EU/EEA countries, 2013



Distribution of PLWHA from the Romanian cohort, by age groups 2014

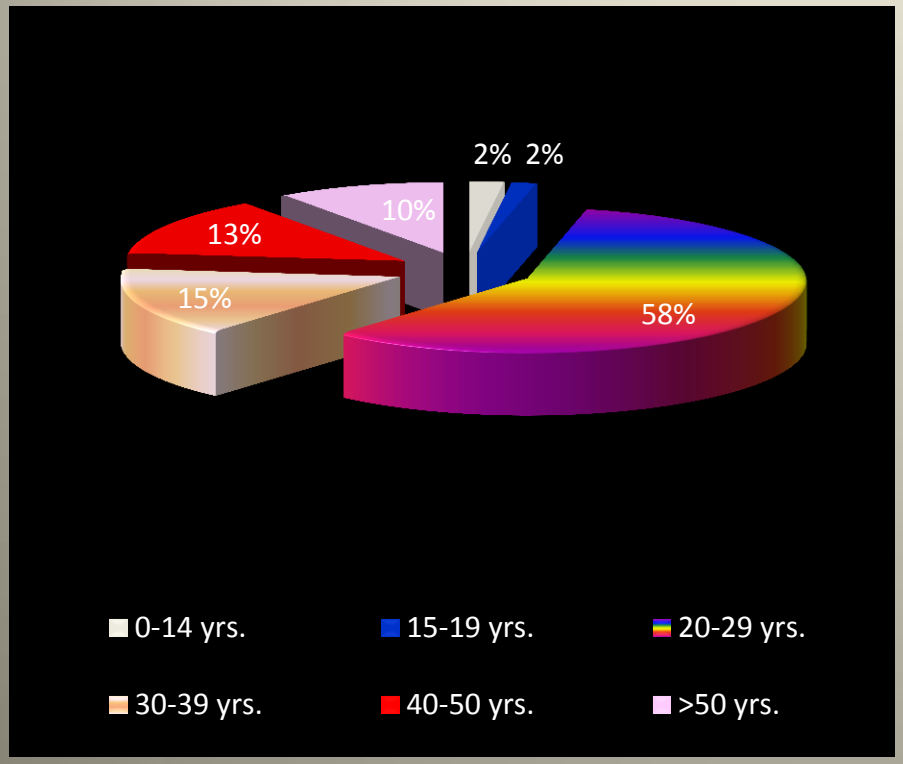


Source: HIV/AIDS Surveillance Report in Europe 2013

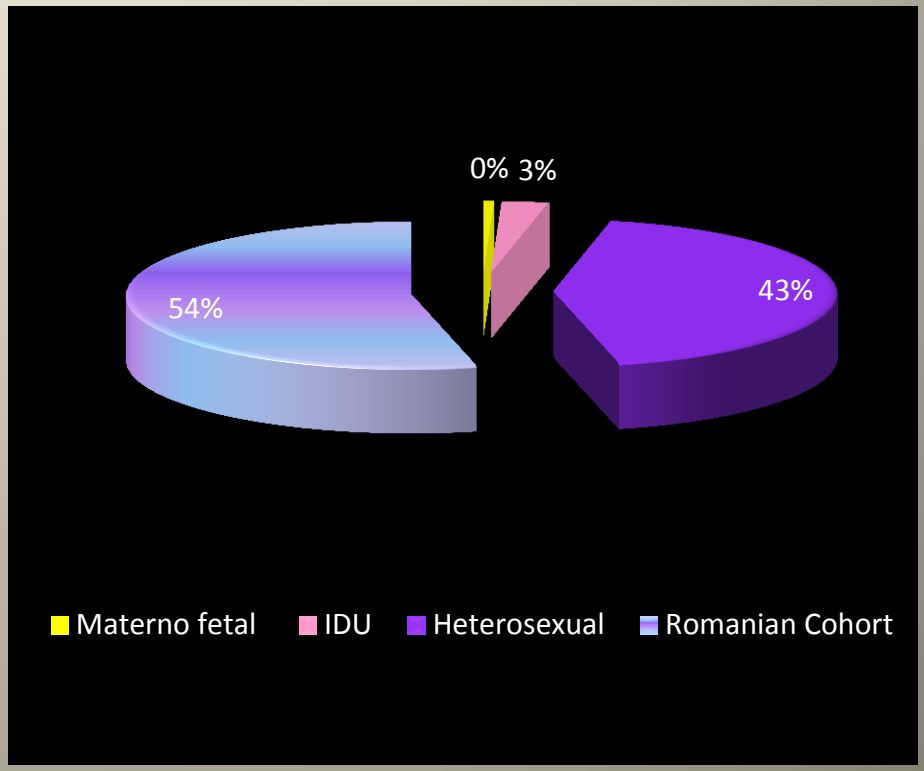
Compartment for Monitoring and Evaluation of HIV/AIDS Data in Romania– INBI "Prof.Dr.M.Balş"

Epidemiology/ key population /trends Romania 2013 - WHO European Region
Patients living with HIV/AIDS
in 2014 in Romania

Women living with HIV/AIDS , by age groups

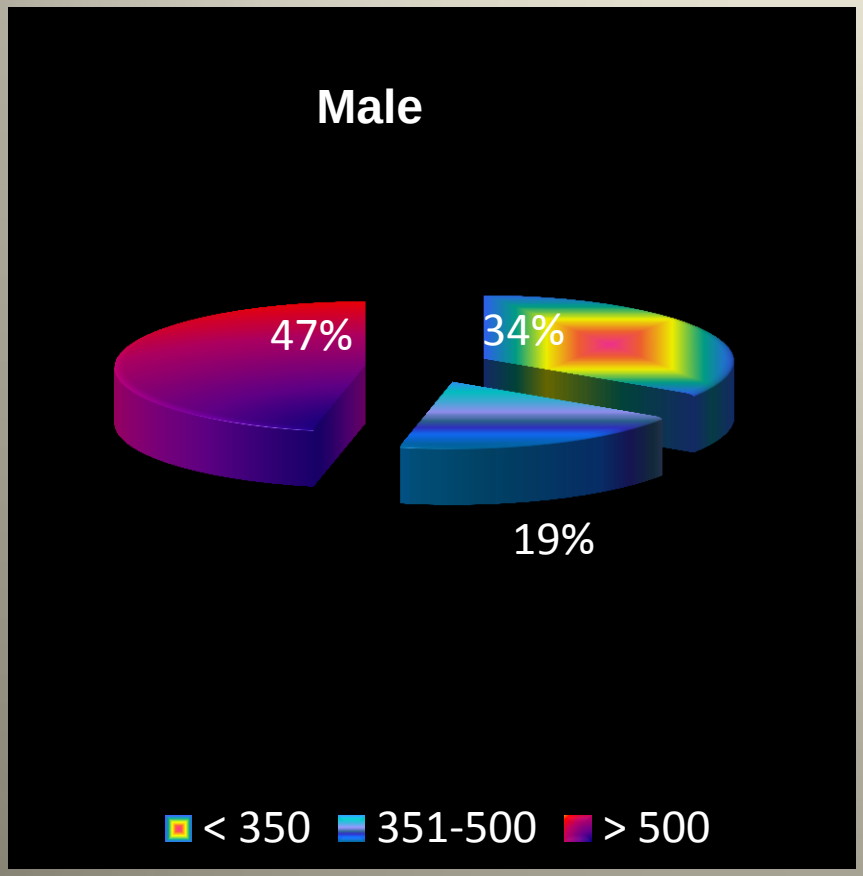


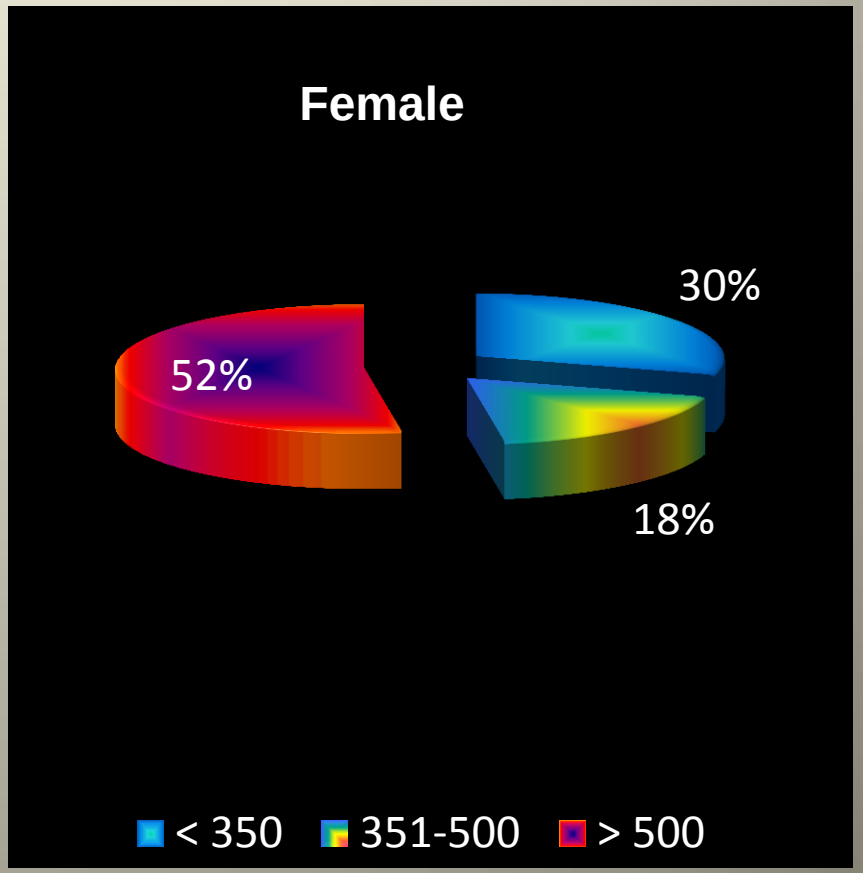
Women living with HIV/AIDS >14, by way of transmission



Source: Compartment for Monitoring and Evaluation of HIV/AIDS Infection in Romania INBI "Prof.Dr.M.Balş"

CD4 values in patients in ART, by gender

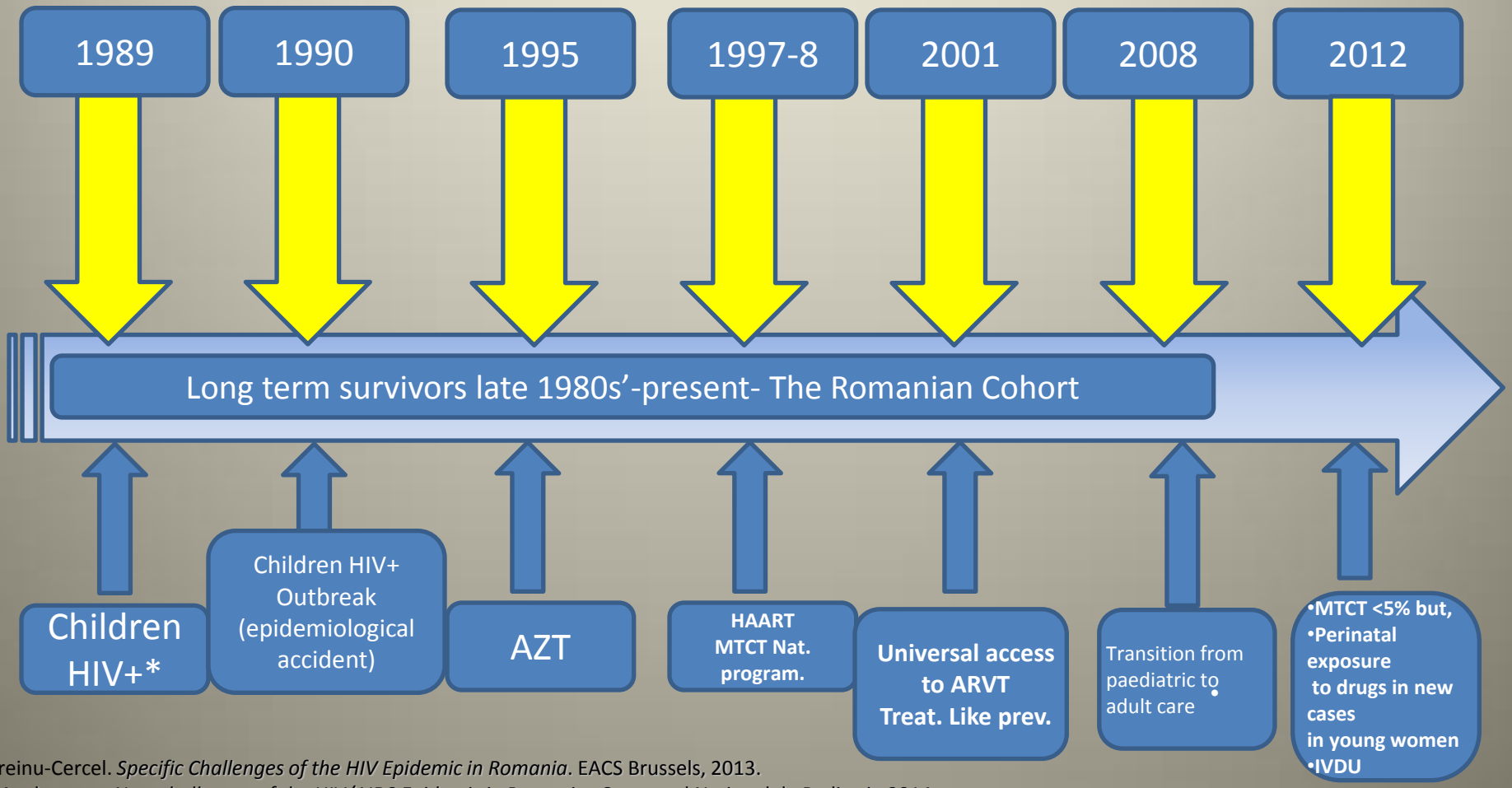




Source: Compartment for Monitoring and Evaluation of HIV/AIDS Infection in Romania INBI "Prof.Dr.M.Balş"

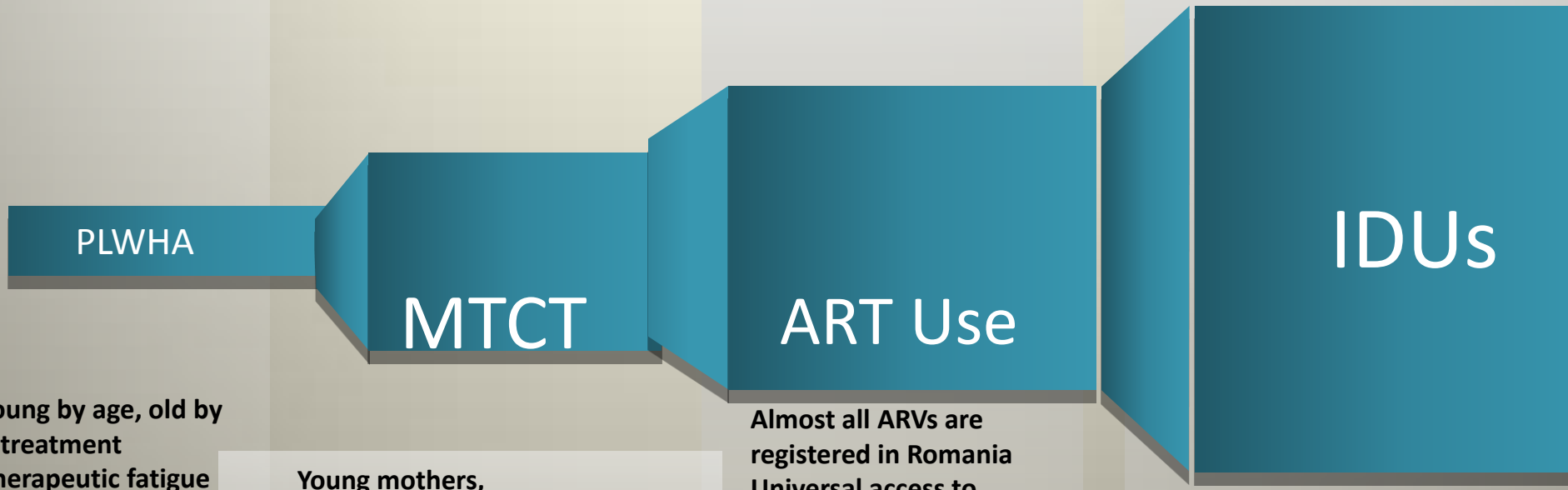
Pediatric Milestones

YPLWHA



A.Streinu-Cercel. *Specific Challenges of the HIV Epidemic in Romania*. EACS Brussels, 2013.
M. Mardarescu. *New challenges of the HIV/AIDS Epidemic in Romania*. Congresul National de Pediatrie 2014.

Challenges for YPLWHA: 2014-2015



Young by age, old by treatment
Therapeutic fatigue
New cases of HIV: young persons, in their fertile age, late presenters .
MSMs: dynamic increase in no. of cases.
Aging persons by age and by HIV (aging with HIV).

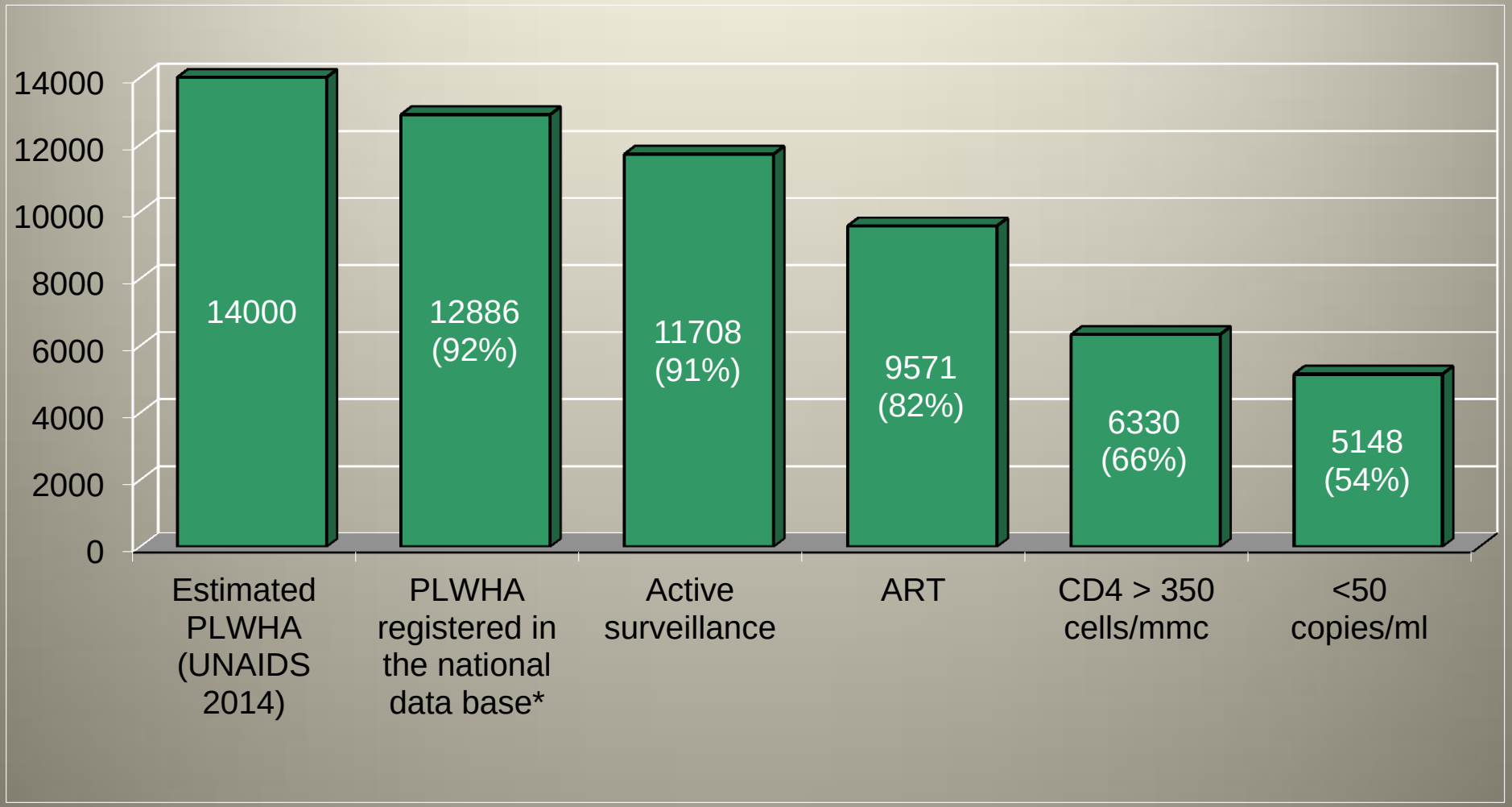
Young mothers, multi- experienced in ART
Mothers with unknown HIV status- should be tested and treated for HIV.
New approach for management of perinatally exposed newborns.
National Registry of the Perinatally exposed child and HIV infected women

Almost all ARVs are registered in Romania
Universal access to treatment
Treatment regardless of CD4 values.
Treatment as prevention.
Sub-optimal regimen in early childhood.
Antiretroviral associated toxicities.
Special issues in ART in young women .

New psychoactive drugs
New approach for the case management of the adult and the newborn to HIV mothers who use new drugs.

Source : A. Streinu-Cercel. cnlas.ro: *Specific Challenges of the Hiv Epidemic in Romania*. EACS 2013.
M. Mardarescu. Challenges and issues in young women. 5th International Workshop on HIV&women from adolescence to menopause. 21-22 February, Seattle

CASCADE OF CARE – 31 DECEMBER 2014
ROMANIA



*** The National l Electronic Registry, implemented in the early 2000s , comprising data from the early 1990s until now.**
Source: Compartment for Monitoring and Evaluation of HIV/AIDS Infection in Romania INBI "Prof.Dr.M.Balş"

4. The National Registry of pregnant women- infected with HIV and of perinatally exposed children

HIV/AIDS Data in Romania

- The data on HIV/AIDS in Romania are stored in:
  - The National HIV/AIDS Data Base : 20.646 (cumulative total 1985-2015);
  - The National Registry of Patients under CART treatment in Romania (Technical Assistance and Management of the HIV Programme Unit);
  - The National Registry of pregnant women- infected with HIV and of perinatally exposed children

- The National Registry of pregnant women- infected with HIV and of perinatally exposed children represents an operational tool that collects data on the item „mother-child", whose main role is to clearly display a national overview on the phenomenon of mother to child transmission.
- The Registry stores :
  - personal data on both mothers and children;
  - the child's medical history (physiological and pathology data);
  - initial investigation, investigation at 6 and 18 months of surveillance;
  - the mothers' personal data;
    - time of HIV diagnosis,
    - risk factors,
    - disease and therapeutic history,
    - peripartum immunological and virological investigation,
    - information about the father and siblings

Source: Mardarescu et al. *The National registry of pregnant women infected with HIV and of perinatally exposed children- a need for Romania?* The 10th Ed. of the Scientific Days of the National Institute for Infectious Diseases "Prof. Dr. Matei Bals", 15-17 October 2014 , Bucharest.

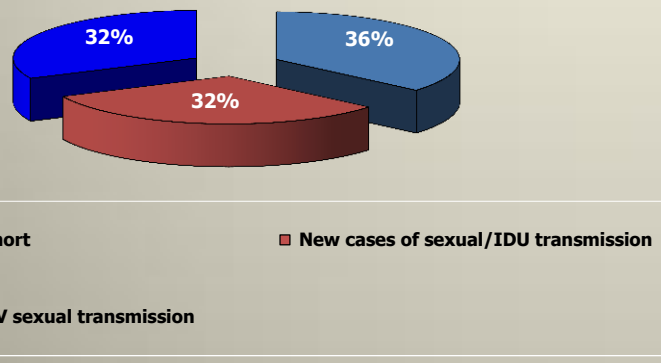
The group in surveillance and evaluation...

- ***381 out of 409 children*** **assessed during, 01.01.2013–01.09.2015 at national level in National Institute for Infectious Diseases "Prof. Dr Matei Bals", in order to establish their HIV status.**
- **The statistical evaluation was performed during the children's perinatal period in order to establish the child's HIV status.**
- **The results of the evaluation at 6 and 18 months will be available starting with 31 December 2015.**

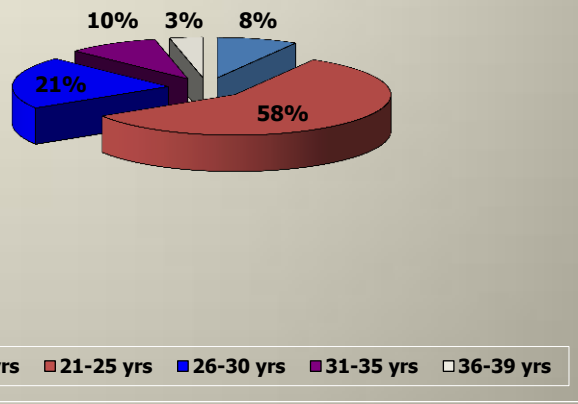
A FEW STATISTICAL DATA...

Data on mothers

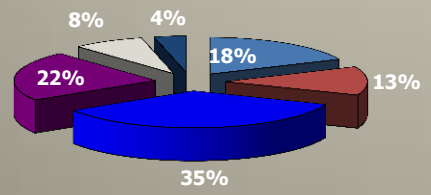
Type of exposure



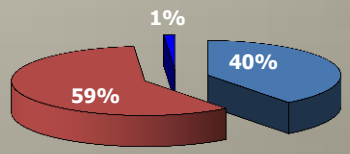
Age of mothers



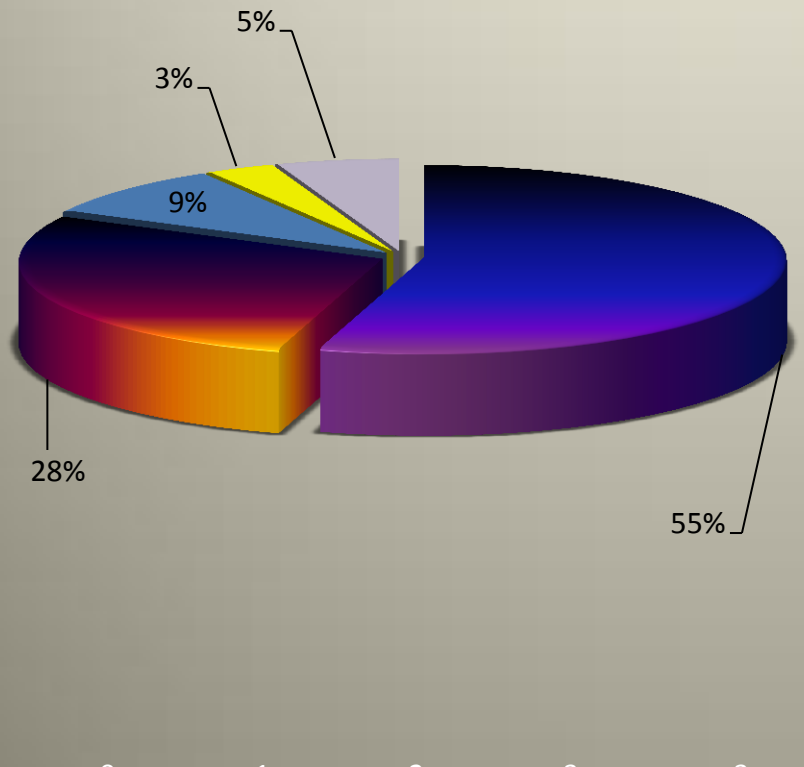
Level of education



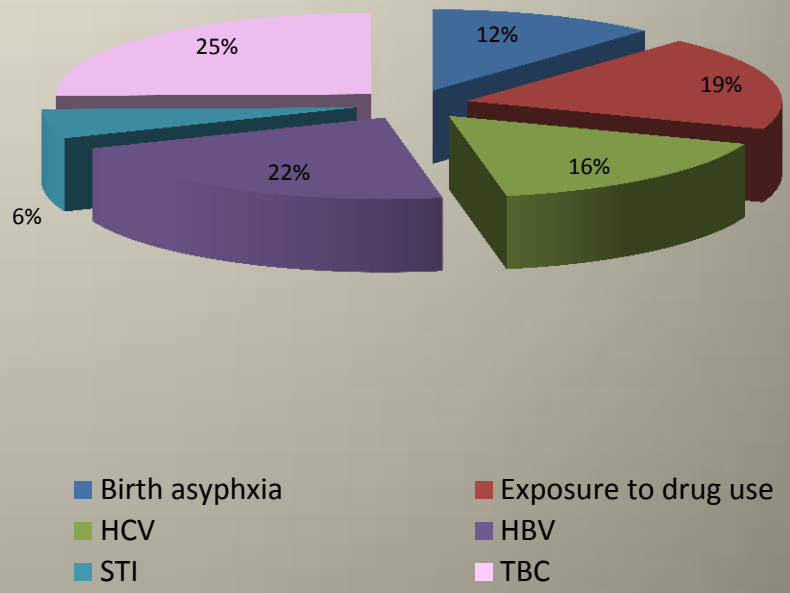
Marital status



Number of previous pregnancies

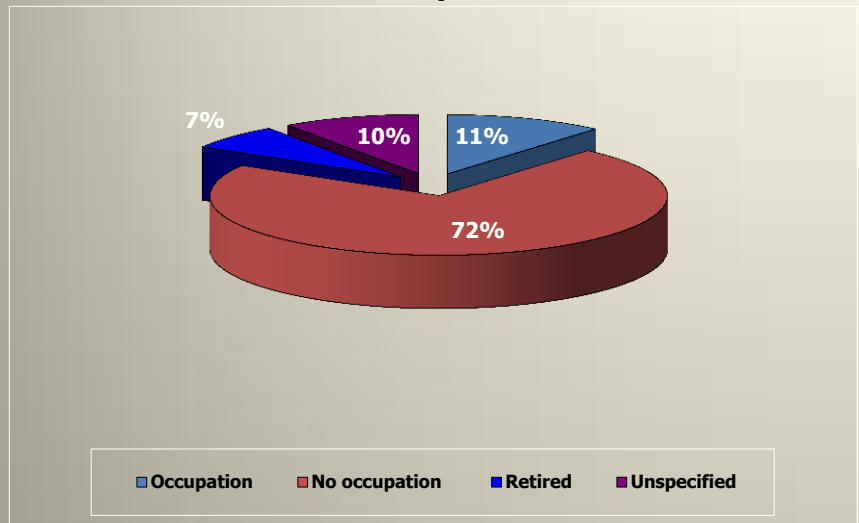


INTRA AND POST PARTUM RISK FACTORS

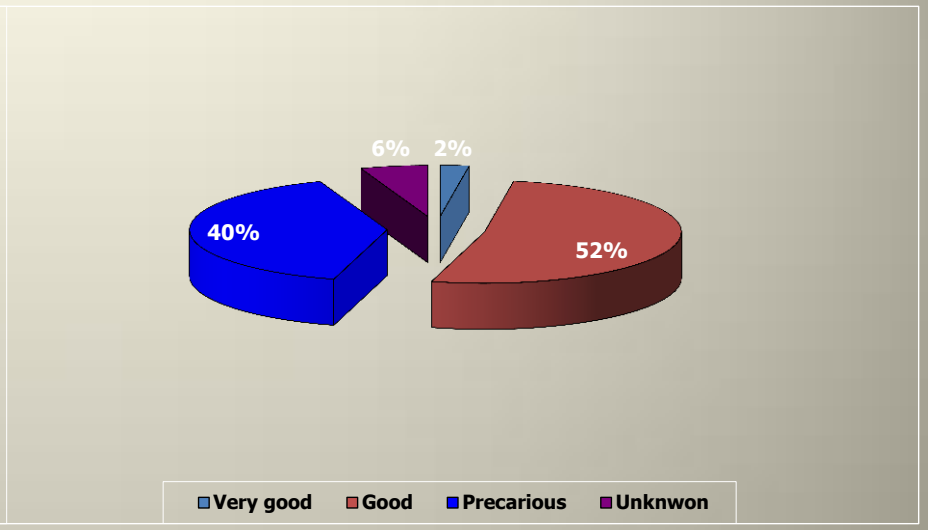


Data on the mothers

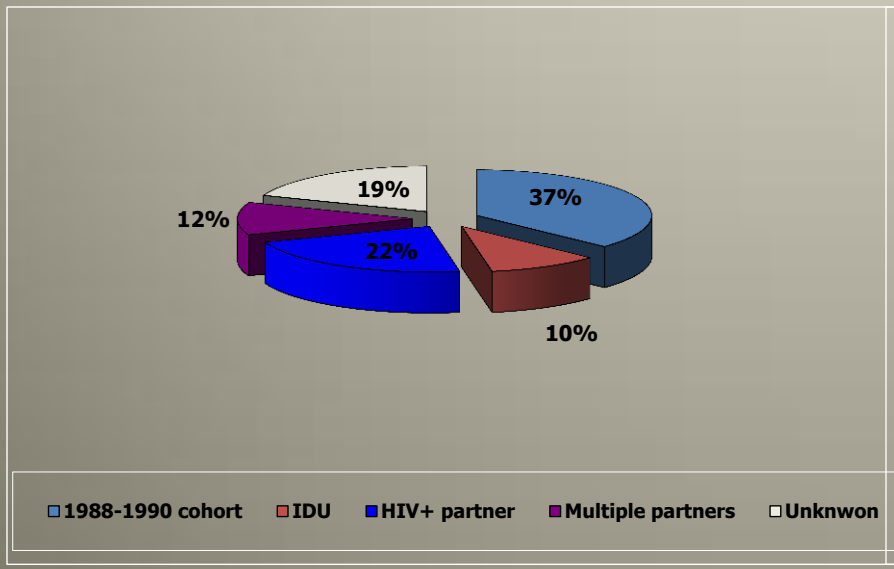
Occupation



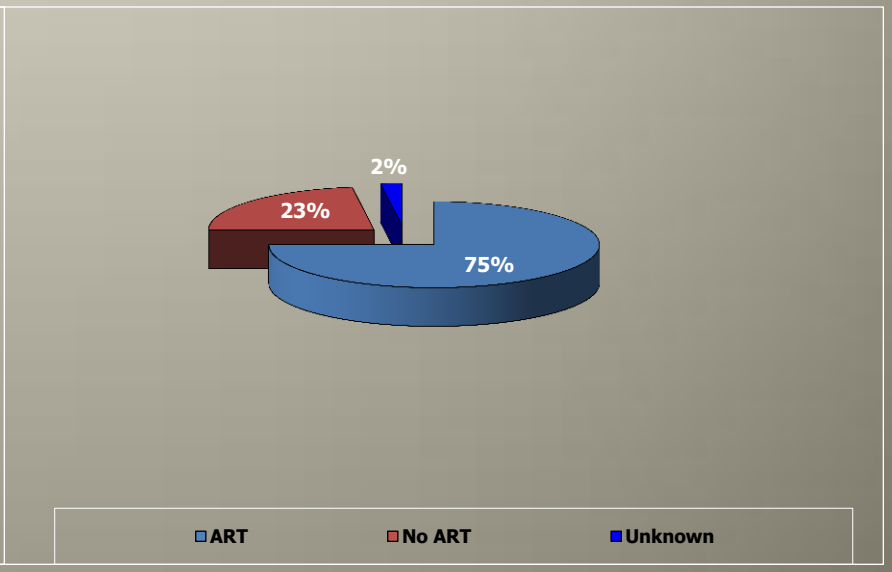
Economic status



HIV risk factors associated to HIV transmission

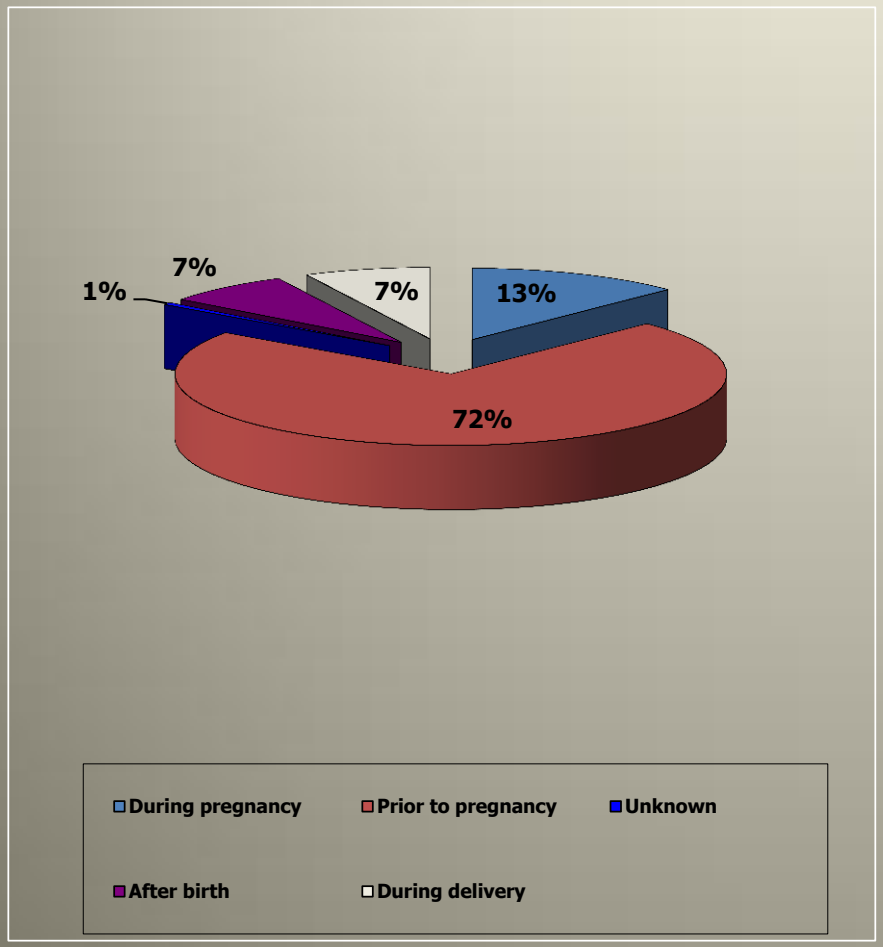


ART in pregnancy

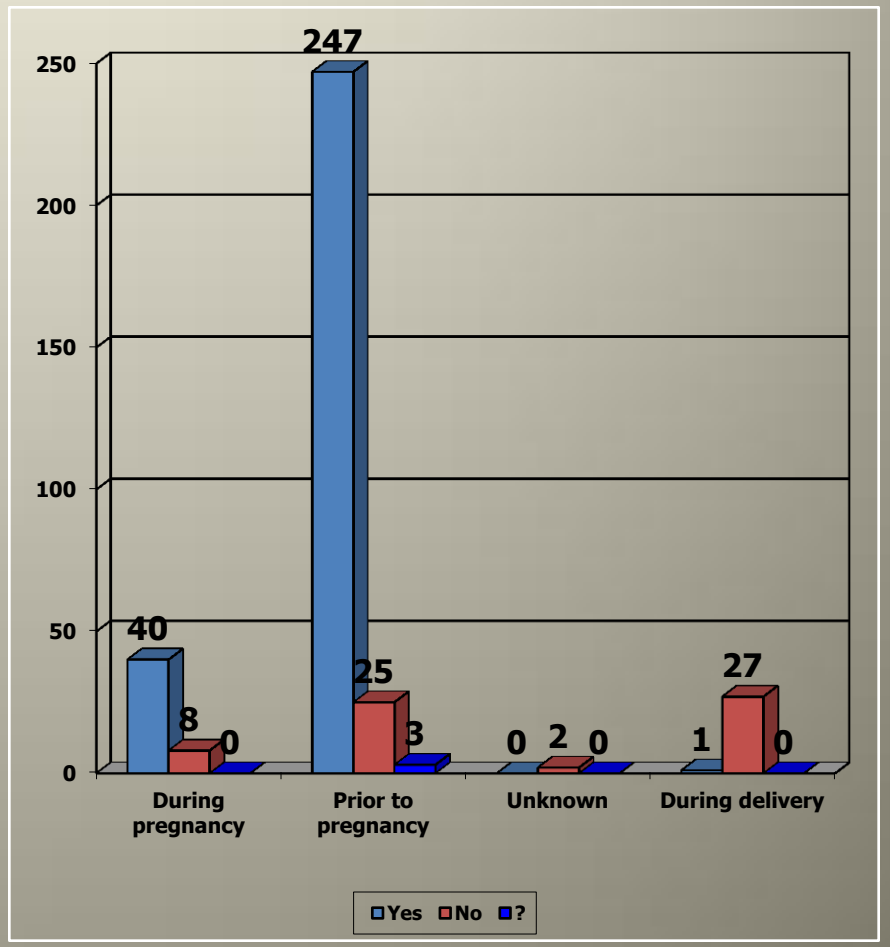


Prophylaxis/treatment in mothers based on the time of diagnosis

Time of mother's diagnosis

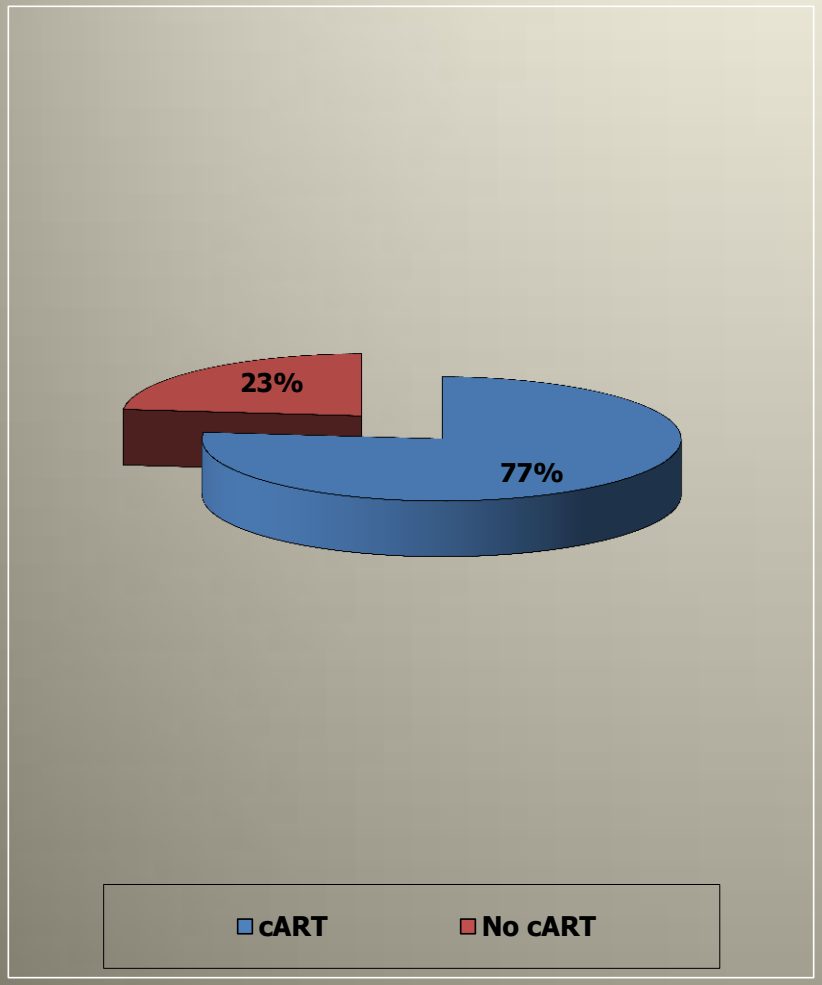


Mother's treatment/prophylaxis

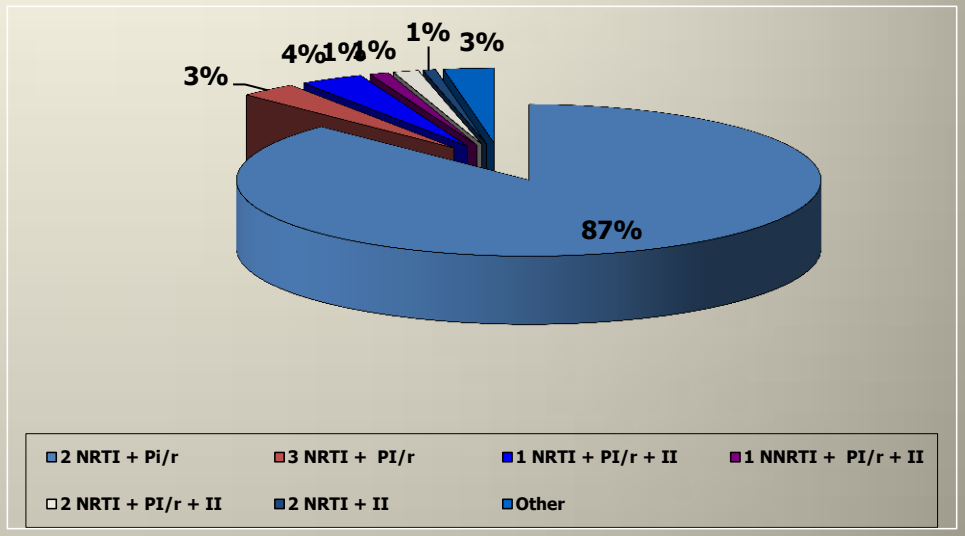


ART in mothers

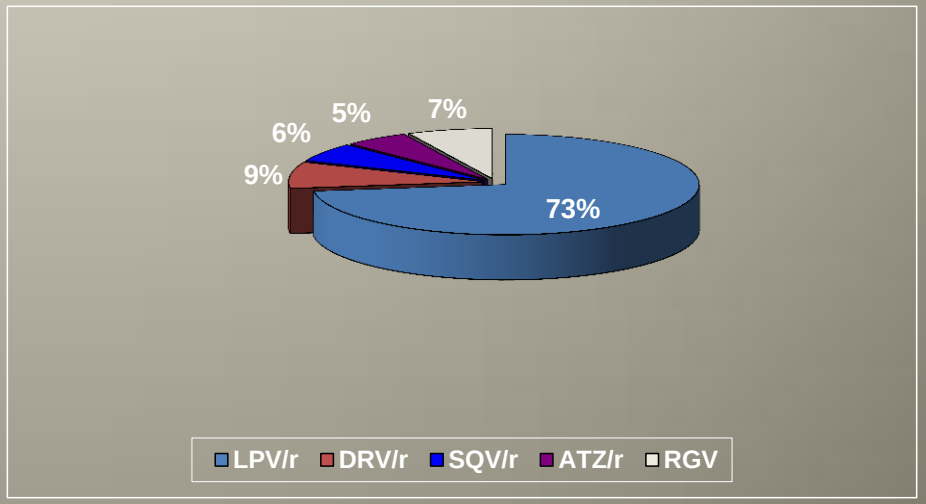
Mother's treatment/prophylaxis



cART schemes

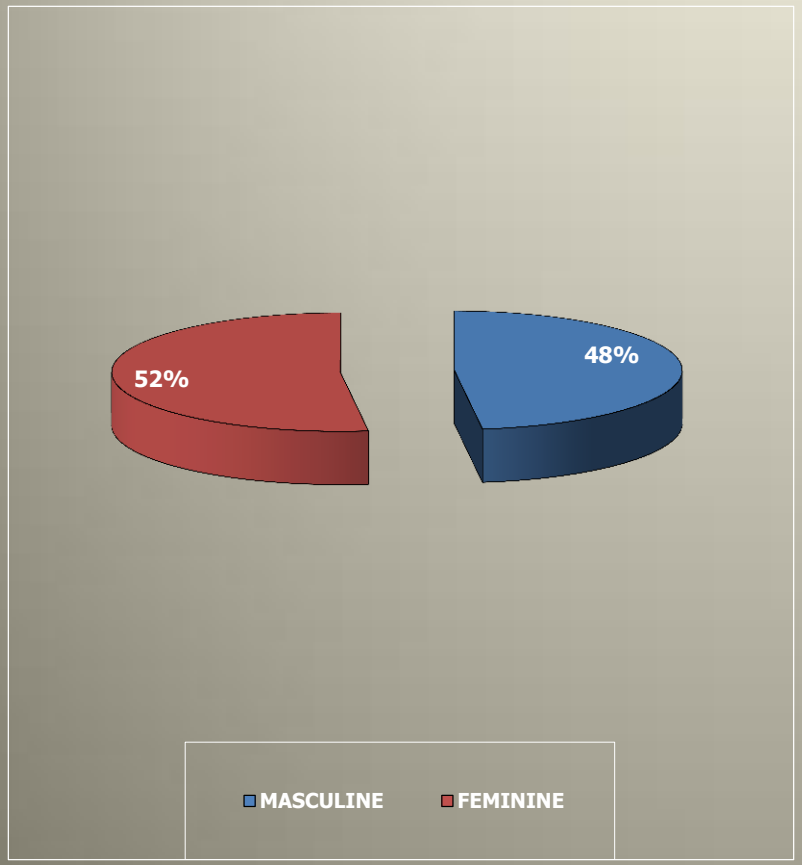


Frequency of used ART

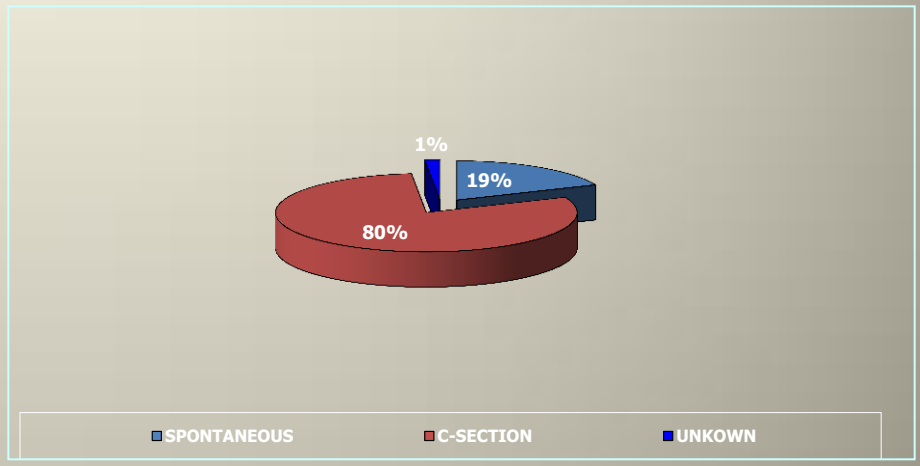


Data on the children

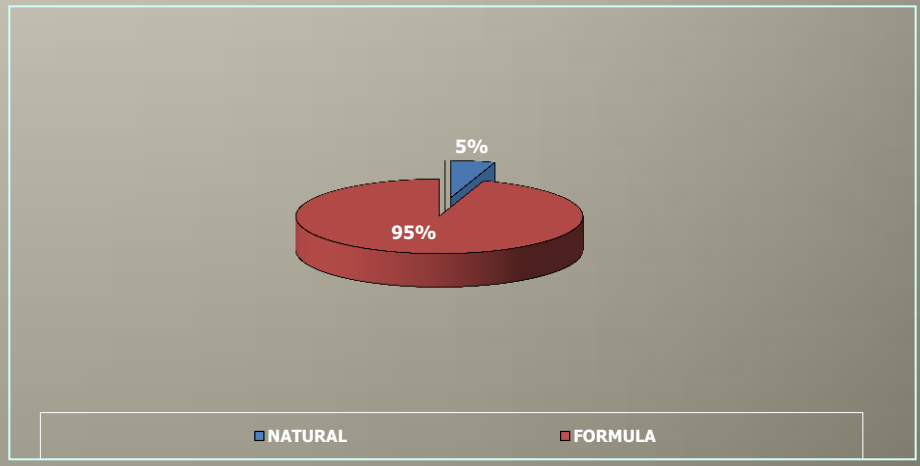
Gender distribution of children



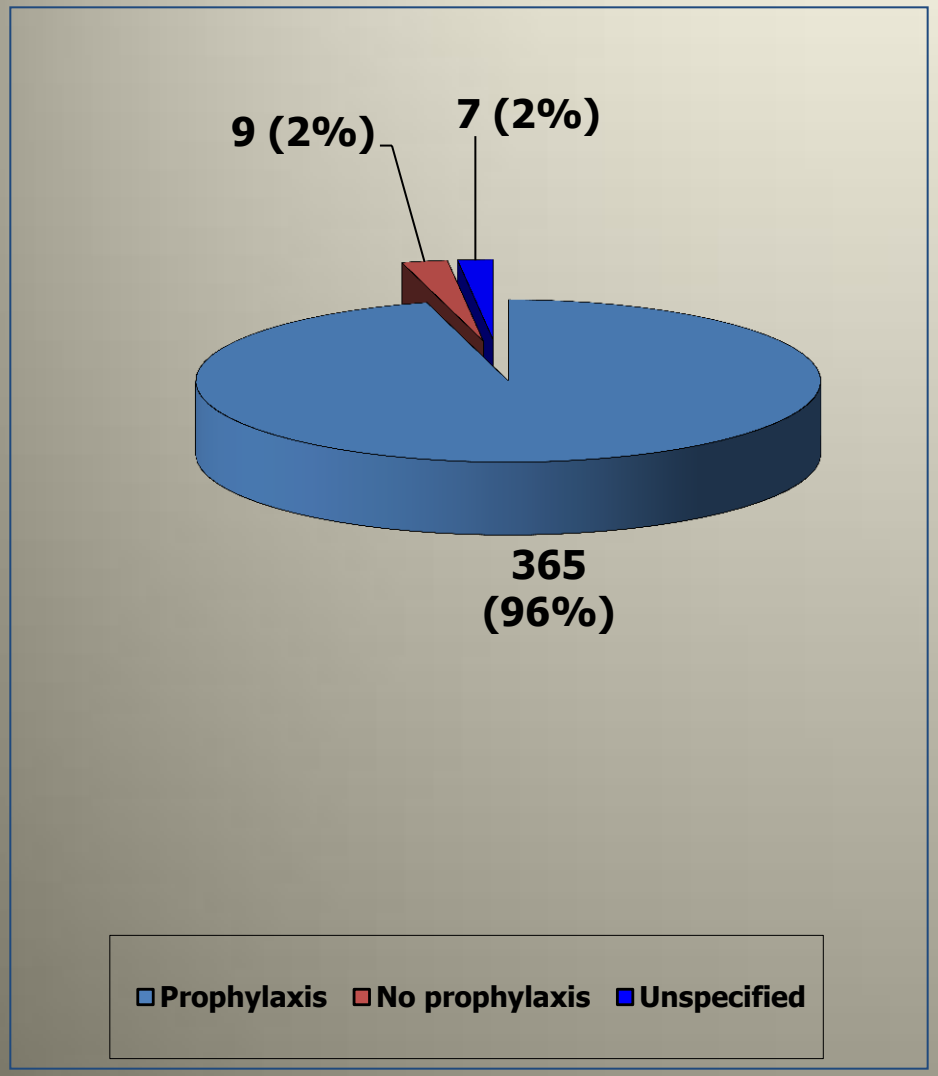
Type of delivery

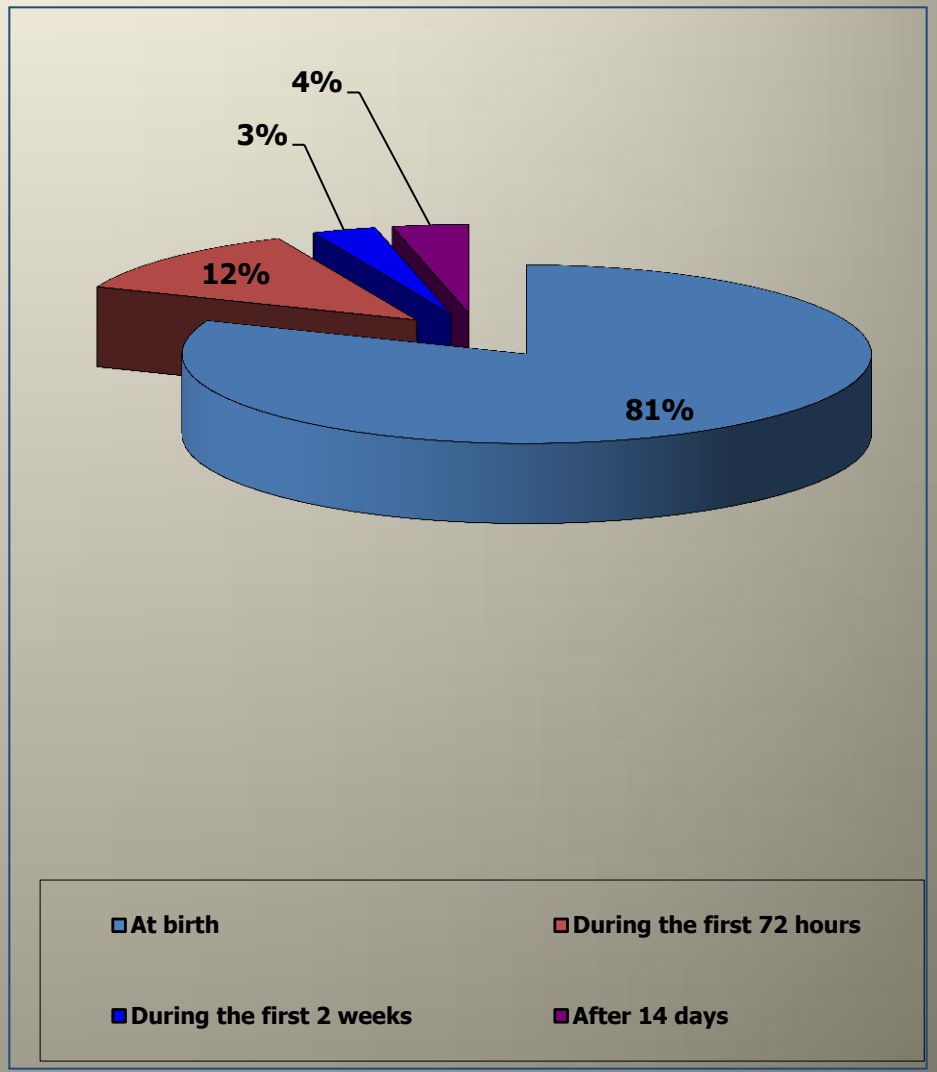


Type of feeding

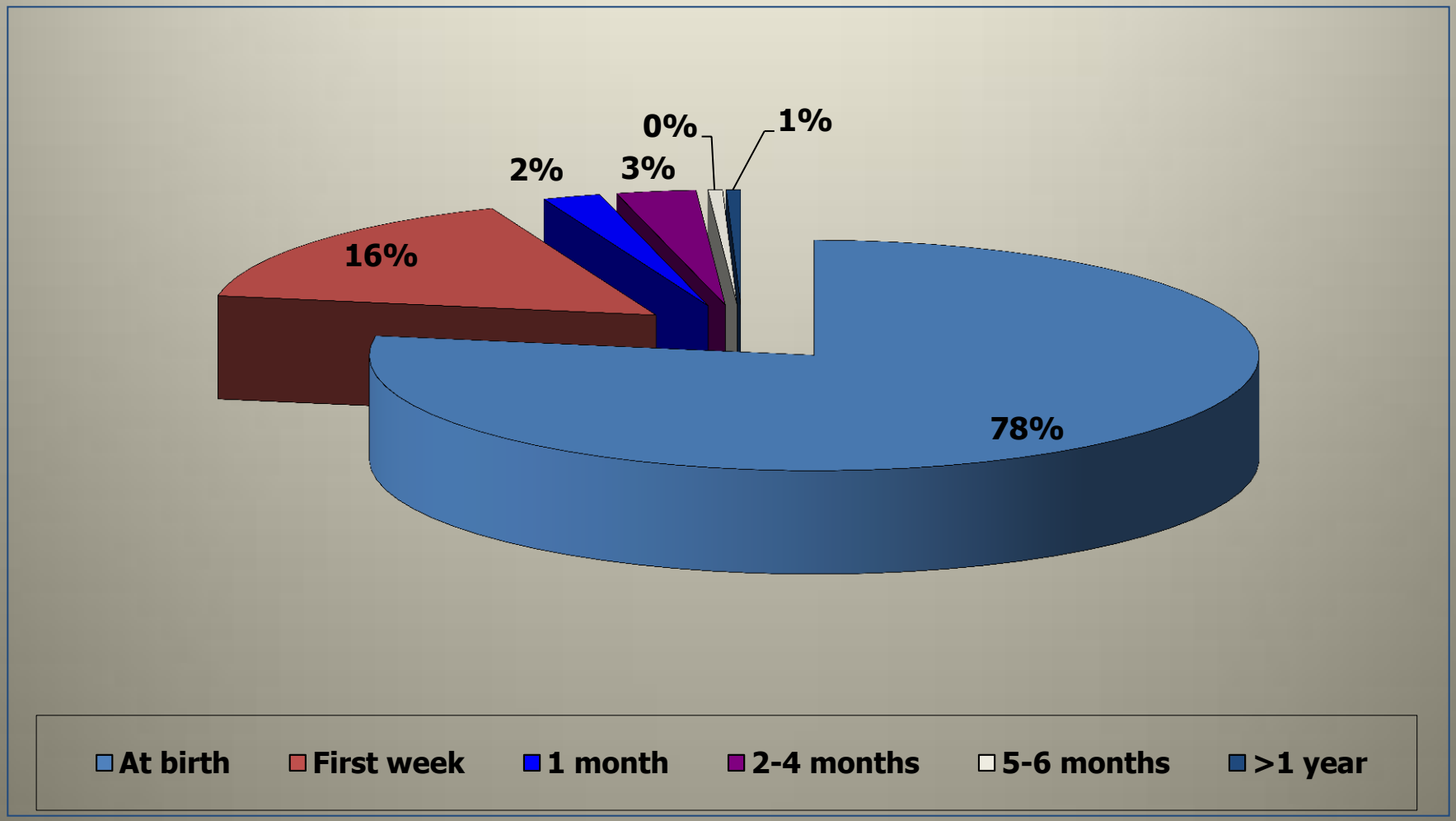


Postpartum prophylaxis in children



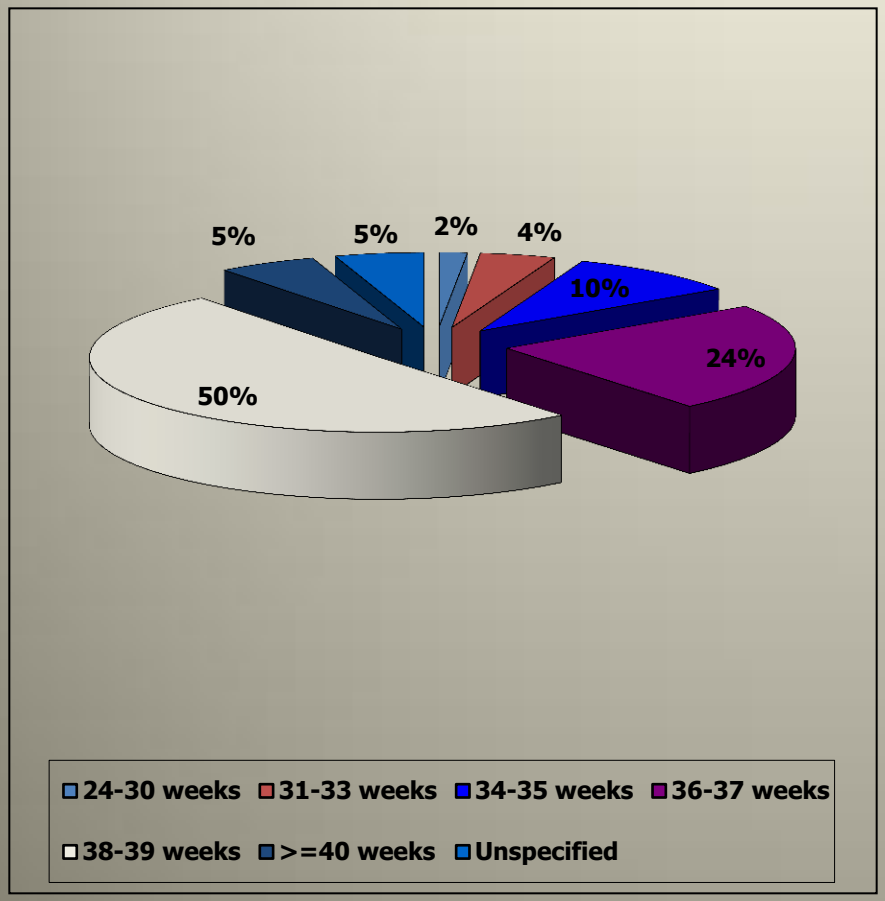


Distribution of children by age at the time they were taken into medical surveillance/regional/national level

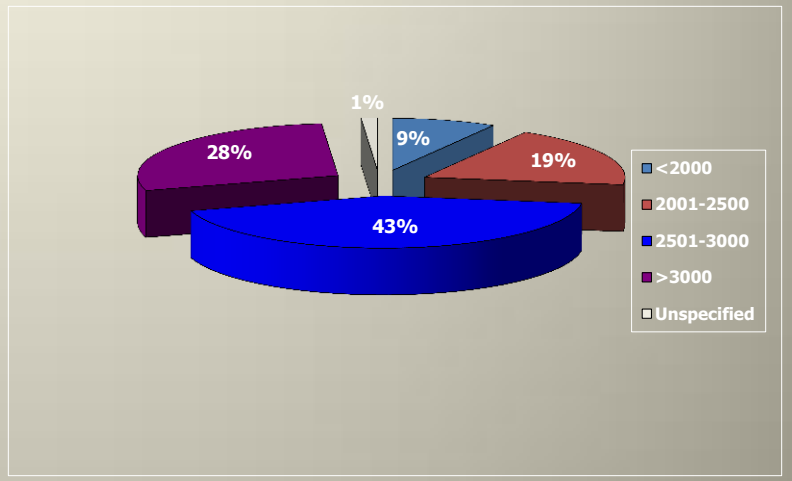


Children distribution by weight at birth and APGAR score

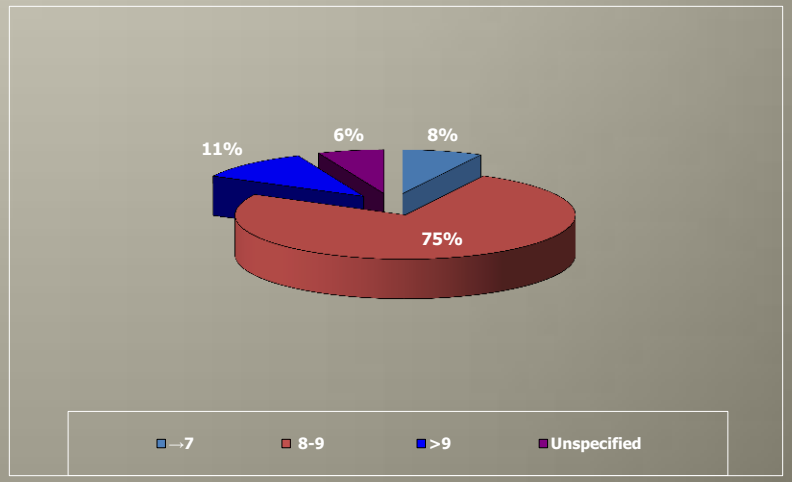
Gestational age



Weight at birth (Grams)

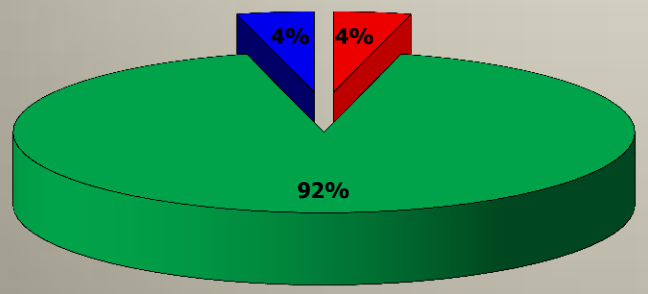


APGAR score



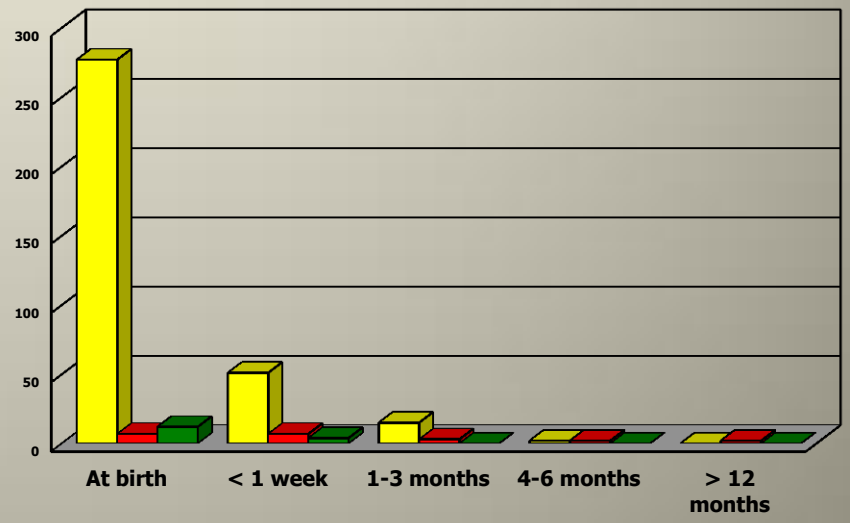
Most children weighted between 2500-3000 g (44%) and APGAR score 8-9 (75%)

Status of children at the initial assessment



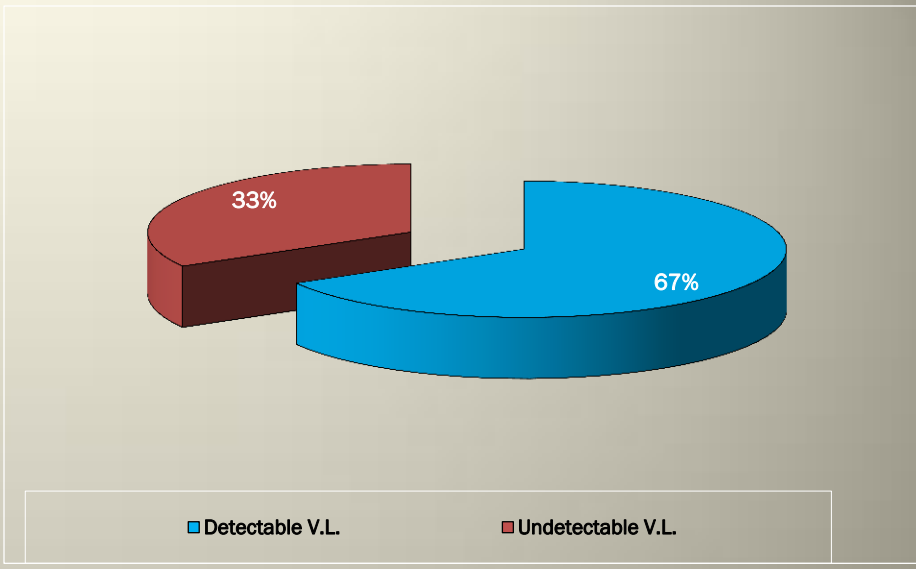
EXPOSED/INFECTED
EXPOSED/UNDETECTABLE V.L
Not assessed

Status of children based on time of diagnosis

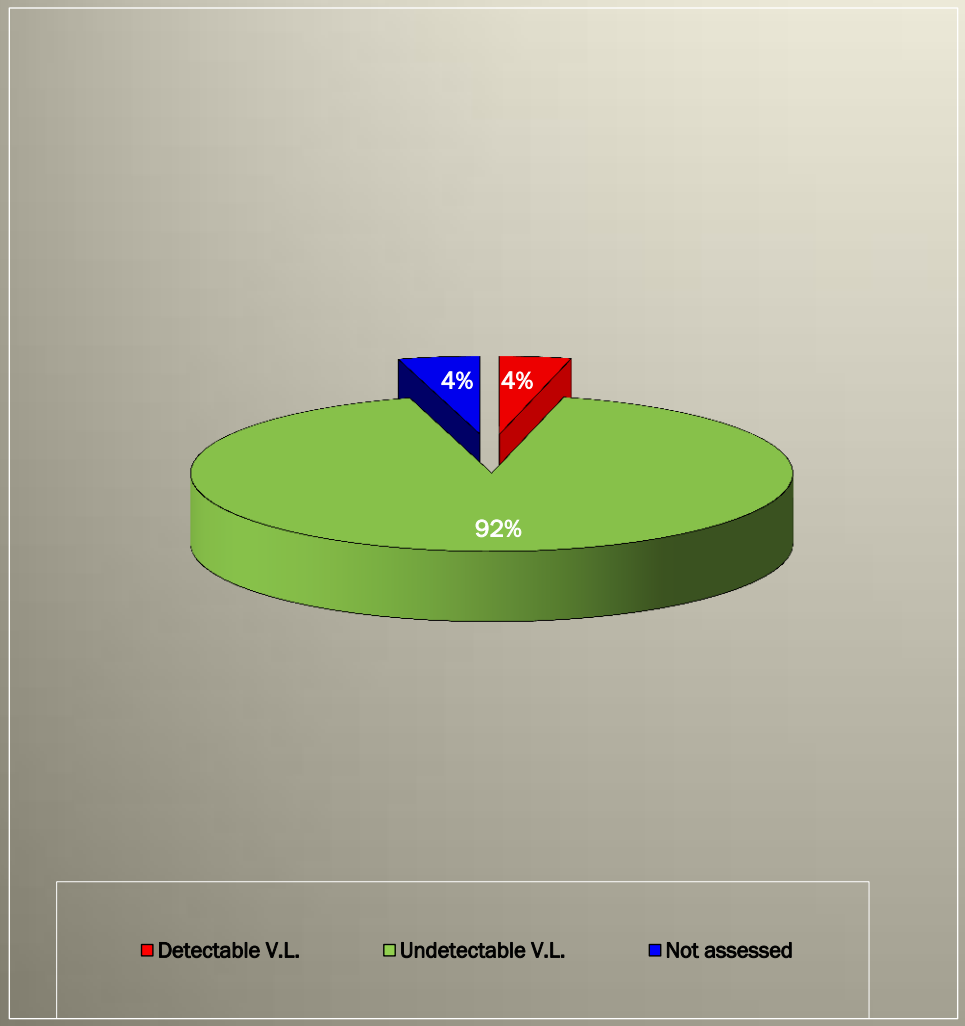


EXPOSED/UNDETECTABLE V.L.
EXPOSED/DETECTABLE V.L.
NOT ASSESSED

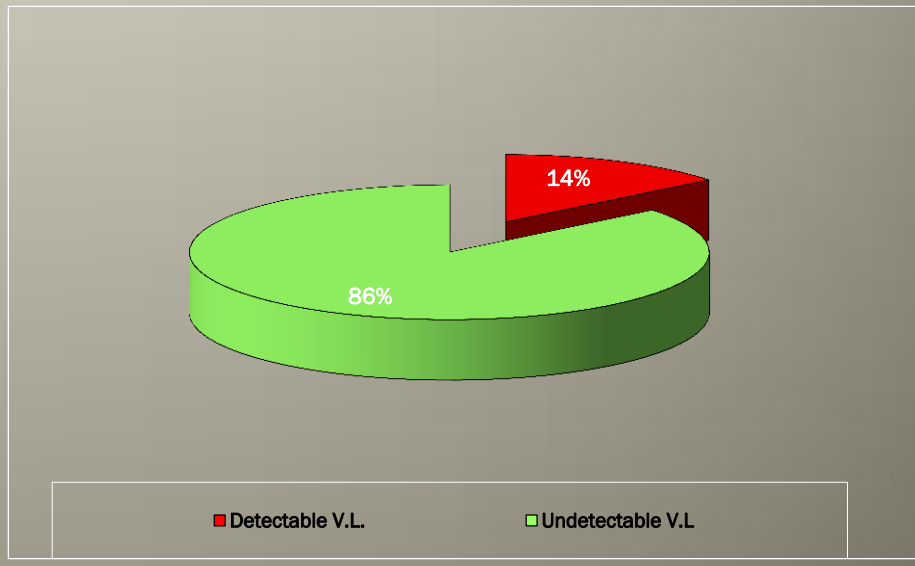
Status of children with no ART prophylaxis



Status of children with ART prophylaxis

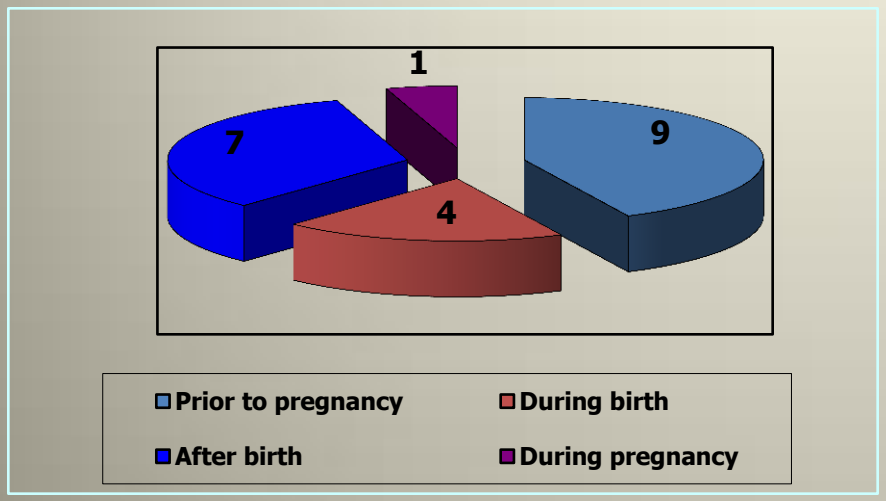


Status of children with unspecified treatment and prophylaxis

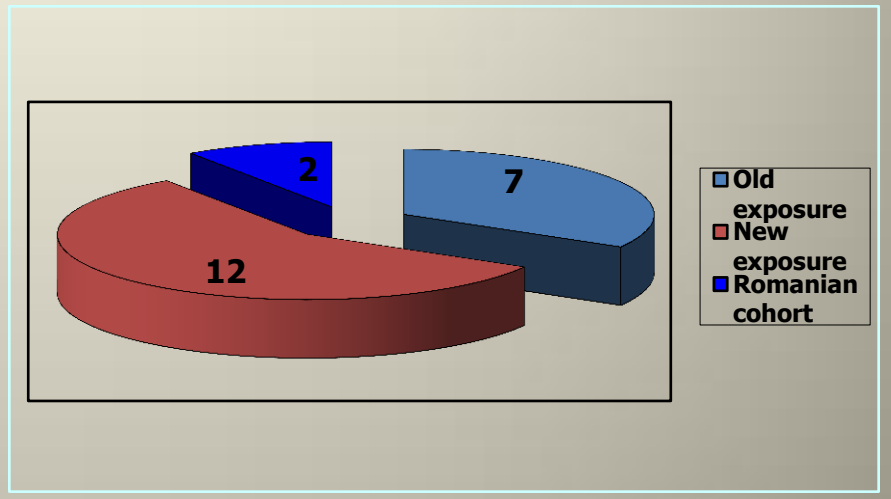


Data on the mothers of children with positive status

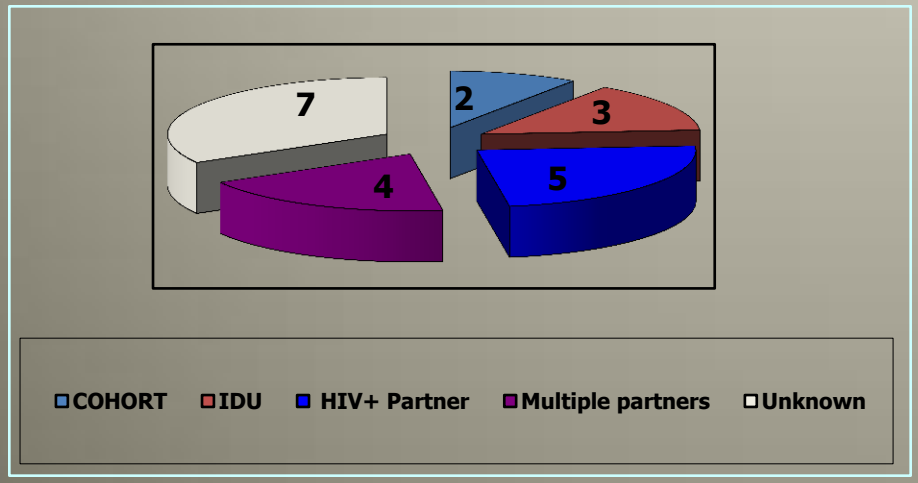
Mother's diagnosis



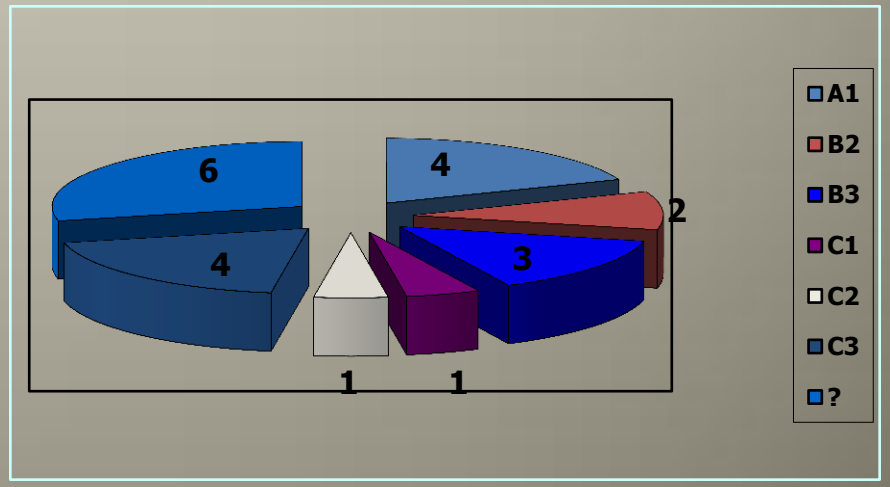
Mother's exposure



Risk factors in mothers

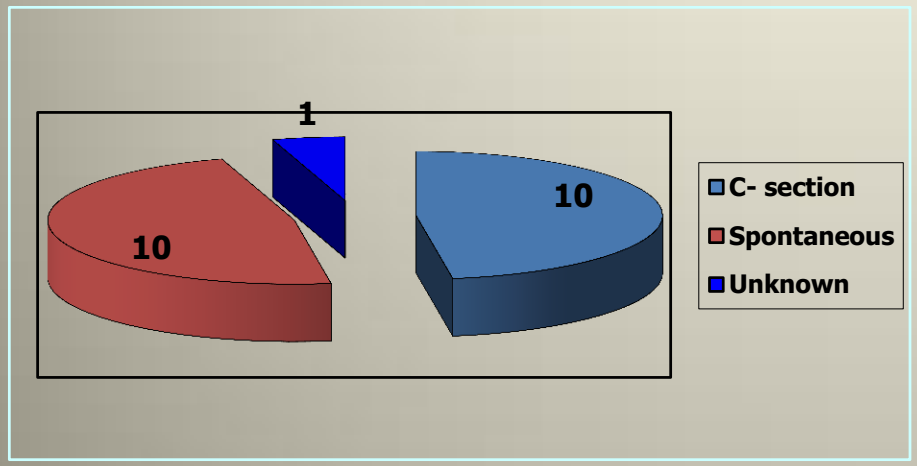


Stage of disease in mothers

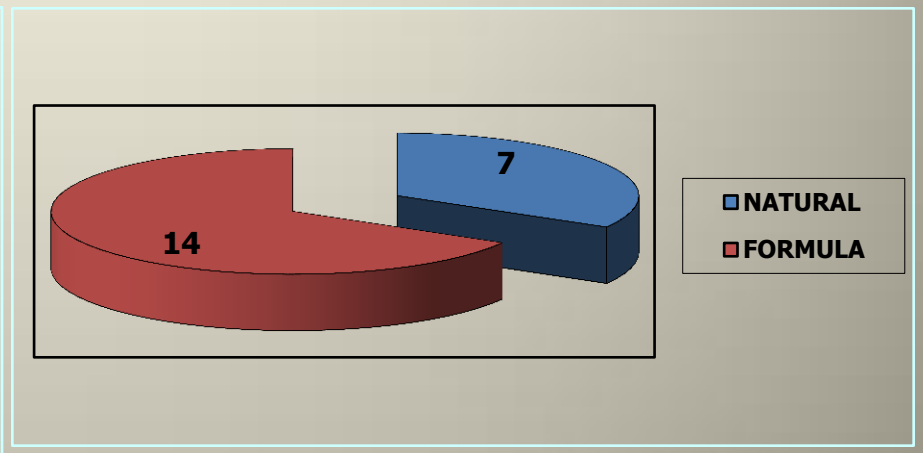


Data on the mothers of children with positive status (21 cases)

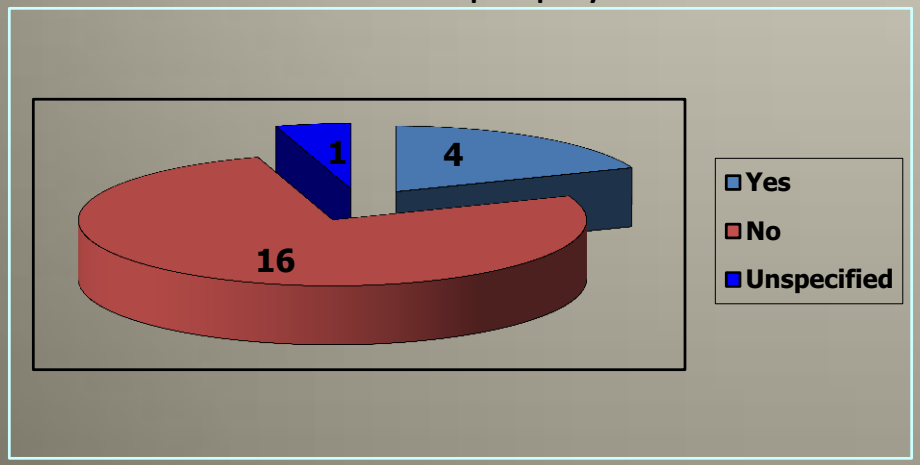
Type of birth



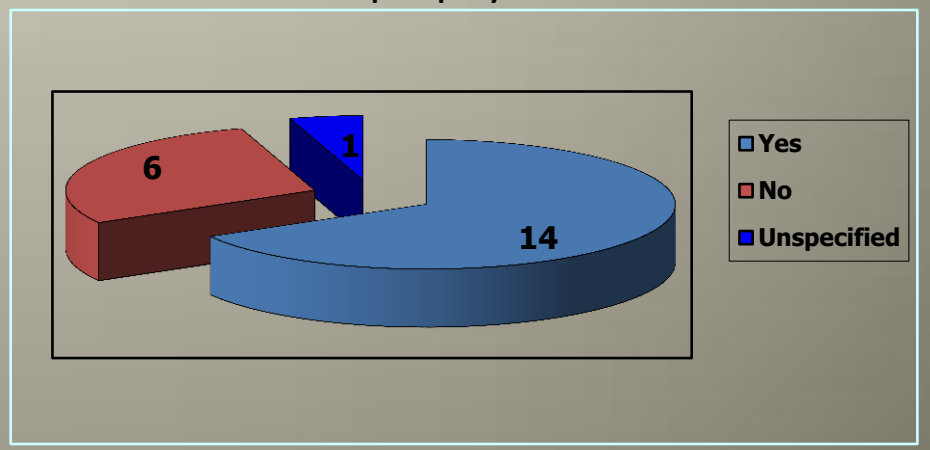
Type of feeding



Mother's prophylaxis

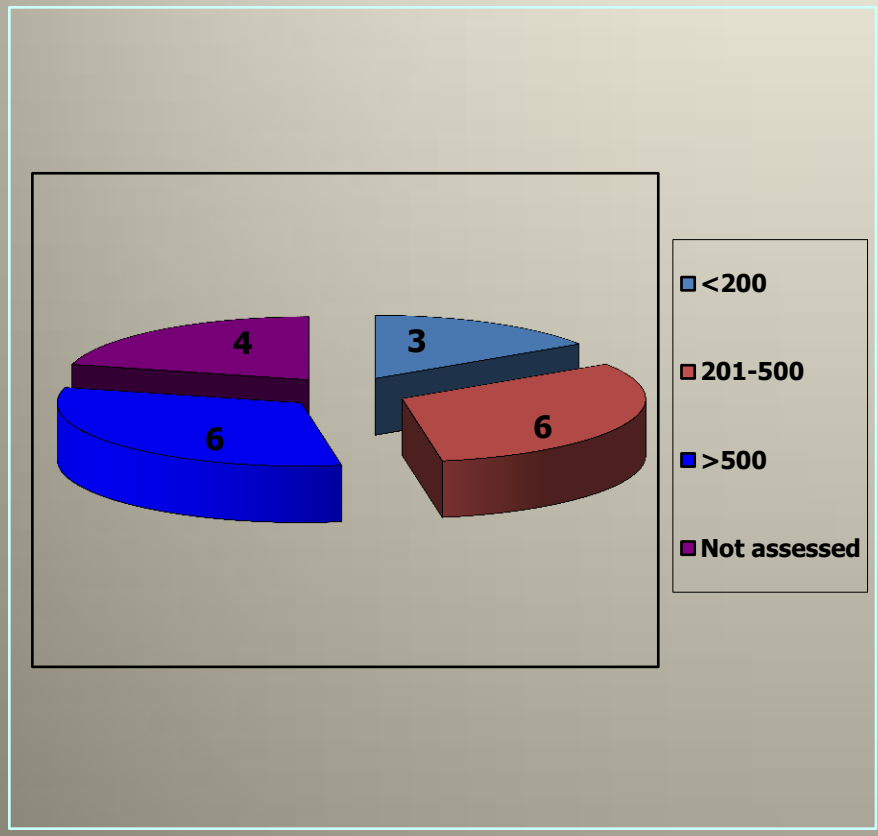


Child's prophylaxis

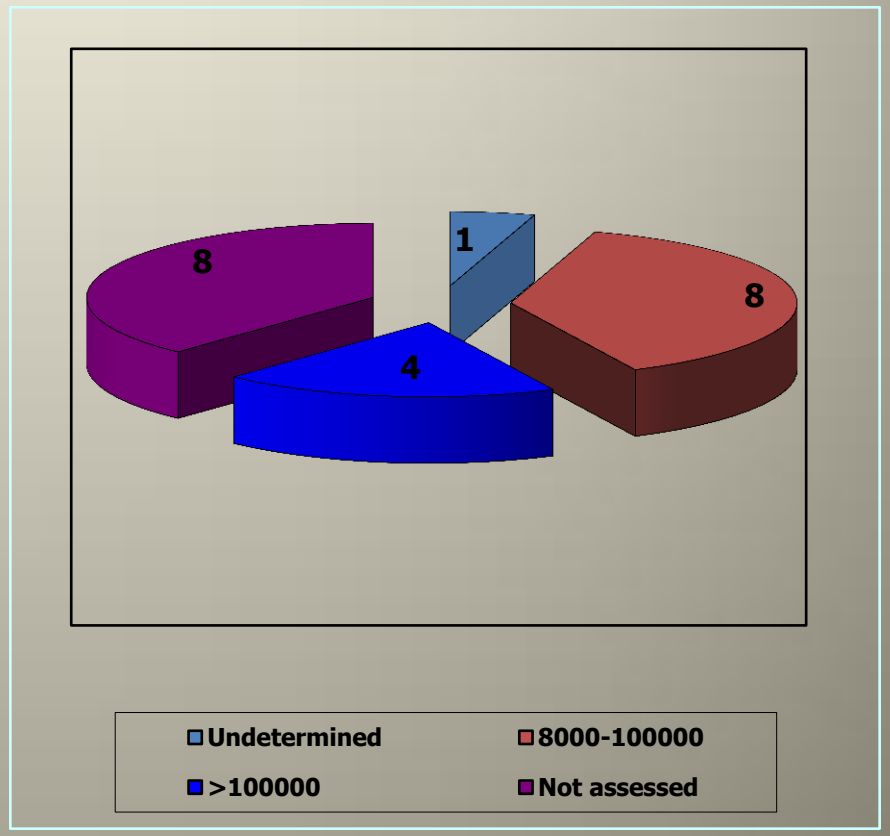


Immunological and virological data in mothers of children with positive HIV status

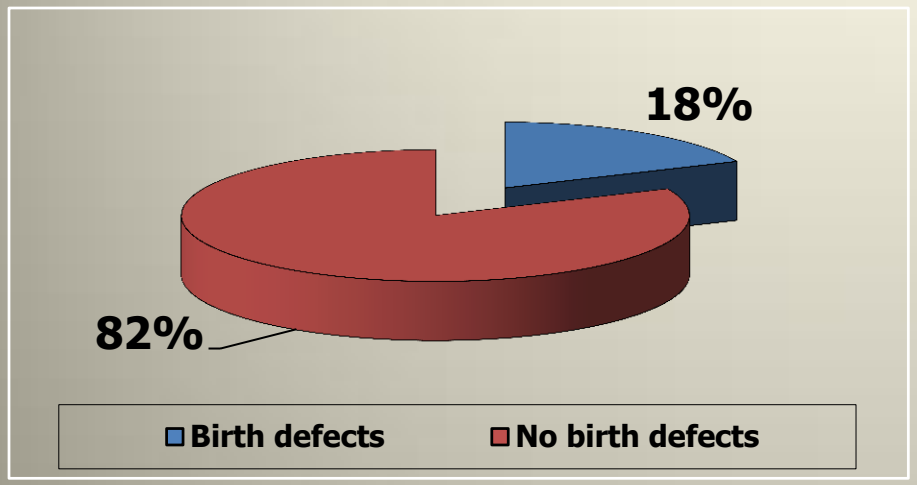
Mother's CD_4



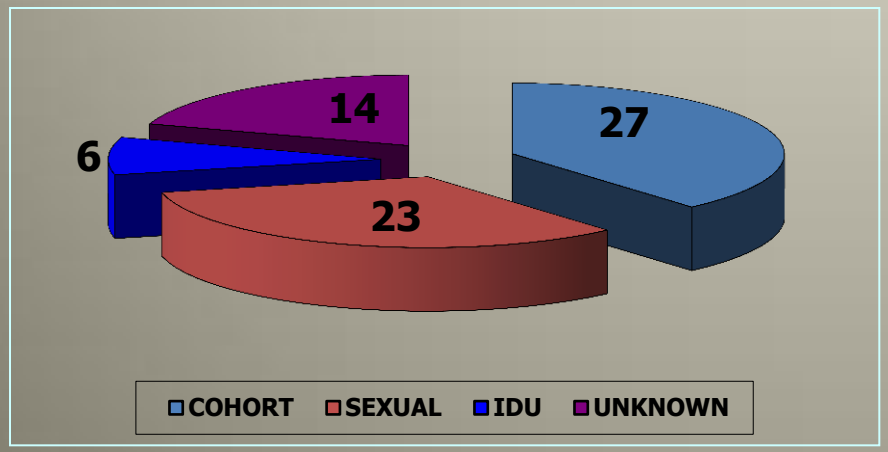
Mother's viral load value



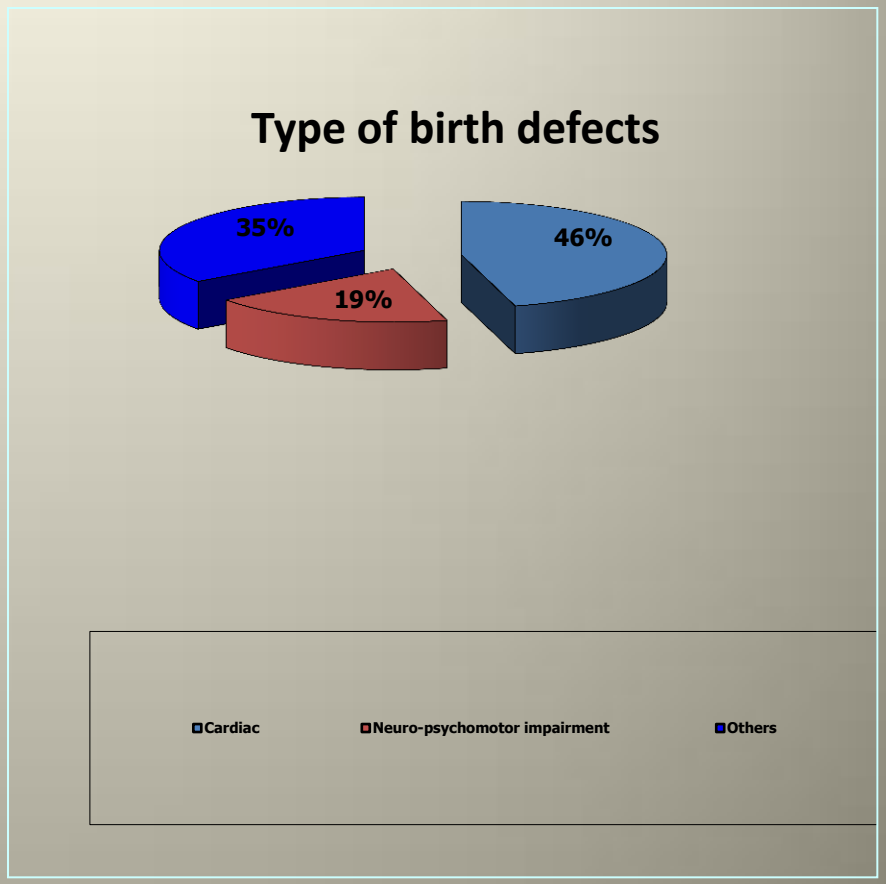
Assessment of birth defects



Mothers' way of transmission



Type of birth defects



Frequent cardiac malformations : atrial septal defect, ventricular septal defect, transposition of great vessels, ventricular hypertrophy.

Stage conclusions…

- **In order to assess the risk factors' impact on the child's status during the first clinical assessment, several factors were considered: type of birth, type of feeding, postpartum ART prophylaxis and ART prophylaxis during pregnancy.**

- **By applying logistical regression, we established that a child's HIV status during the first evaluation is significantly influenced by ART prophylaxis during pregnancy as well as by post partum ART prophylaxis (p-stat<0.05).**

Stage conclusions…

- **Available statistical data show an increased *number of new HIV cases in Romania.***
- **Distribution of HIV/AIDS cases in life, by age groups (cumulative total 1985-2014) *display as the most representative groups- fertile age groups***
- **An important share in women's' group is represented by the 1987-1990 epidemiological cohort**
  - ***Long term survivors***
  - ***Complex associated pathology***
  - ***Therapeutic fatigue***
  - ***Advanced stages of diseases***
  - ***Significant therapeutic background, multiple resistance mutations***

Stage conclusions…

- **These patients want/have their own families and children (1, 2, 3…) that raise important problems in terms of vertical transmission .**
- **The child's exposure to HIV, HBV, HCV, syphilis**
- **Teratogenic effects of ART therapy occur in the young population with multiple therapeutic experience (> 20 years) who has reached their fertile age.**
- **Late detection of HIV infection in pregnant women which makes it difficult to apply MTCT prophylaxis (considering that sometimes the child is already infected).**

Stage conclusions…

- **Increase in the number of injecting drug users (but not limited to them), which places them as the second most predominant way of transmission, which also exposes their children.**

- **Given this context, we need to standardize the evaluation of perinatally HIV exposed children at national level, especially in order to obtain a proper neuro-psycho-motor assessment.**

- **Last, but not least Romania needs to reevaluate all the medical services addressing HIV exposed children, so that each of these patients benefits from rapid and complete evaluation tools during the first 24 hours of life, as well as during the first 24 months of life.**

References

The current presentation was held ar “Assessment of Resources and Research Opportunities in Neuro AIDS” Event, 5-6 Ocotber 2015, Bucharest

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