HIV and WOMEN
Gynecological management

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Disclosures

- I have no conflict of interest to disclose

Plan

- Introduction
- HIV and contraception
- HIV and HPV
- Mother to child transmission
- HIV and menopause
- Conclusion and take home message

INTRODUCTION

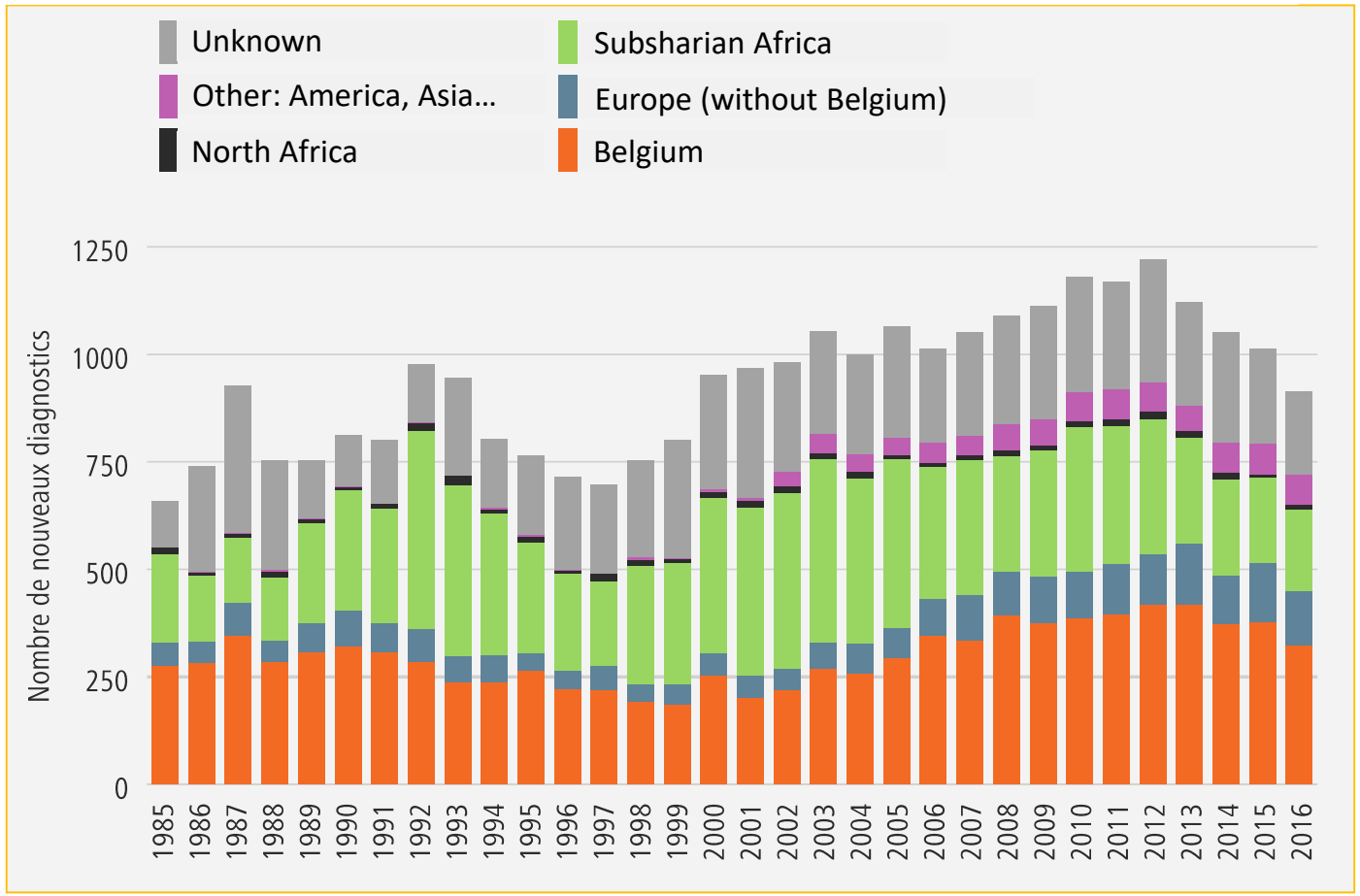
Global summary of the AIDS epidemic

Number of people living with HIV in 2015	Total	36.7 million [34.0 million – 39.8 million]
	Adults	31.8 million [30.1 million – 33.7 million]
	Women	16.0 million [15.2 million – 16.9 million]
	Children (<15 years)	3.2 million [2.9 million – 3.5 million]
People newly infected with HIV in 2015	Total	2.1 million [1.9 million – 2.4 million]
	Adults	1.9 million [1.7 million – 2.1 million]
	Children (<15 years)	240 000 [210 000 – 280 000]
AIDS deaths in 2015	Total	1.1 million [940 000 – 1.3 million]
	Adults	1.0 million [1.2 million – 1.5 million]
	Children (<15 years)	190 000 [170 000 – 220 000]

UNAIDS/WHO estimates

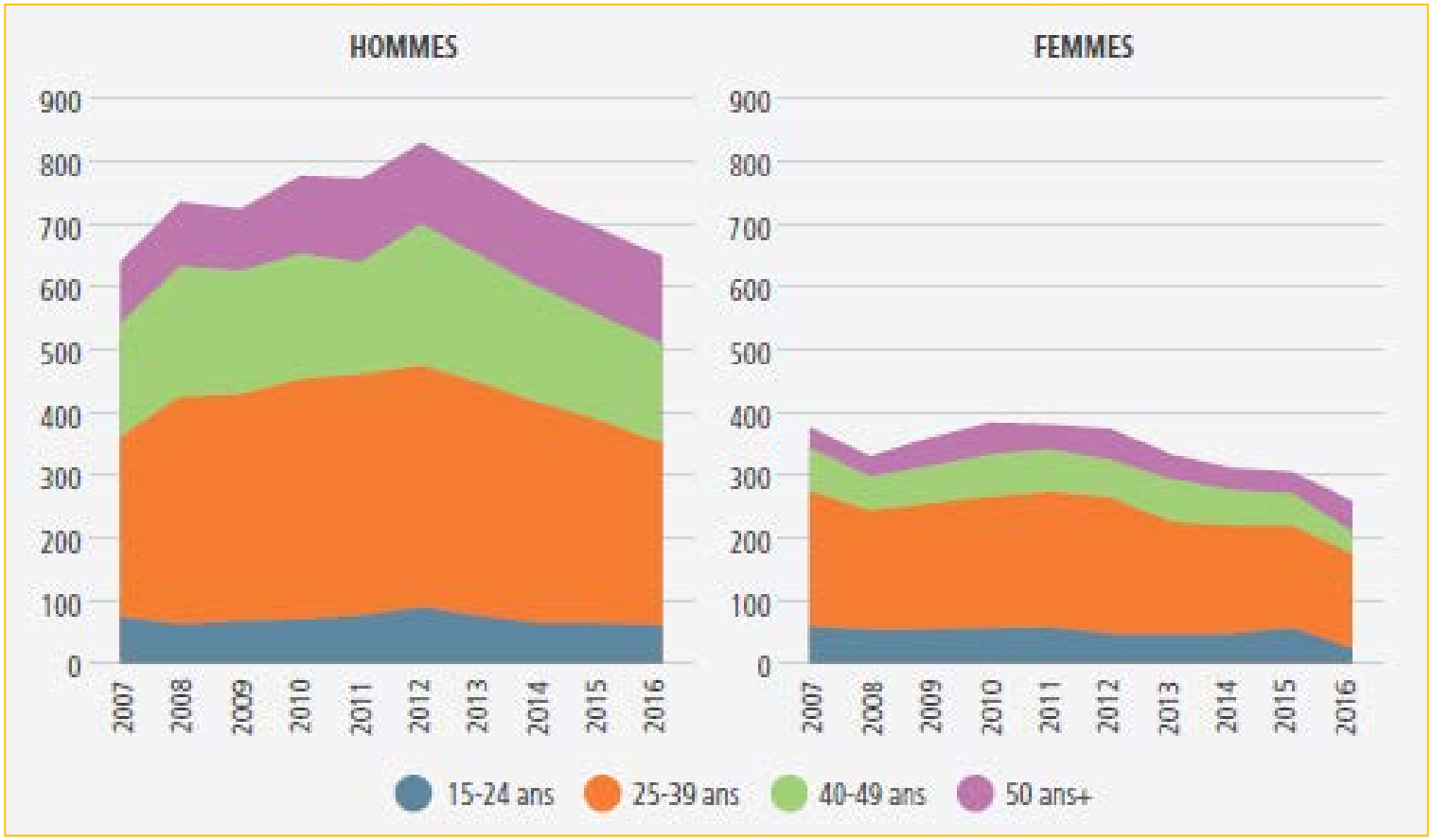
Epidemiology of AIDS and HIV infection in Belgium

Newly diagnosed HIV infections according to the nationality, Belgium, 1985-2016

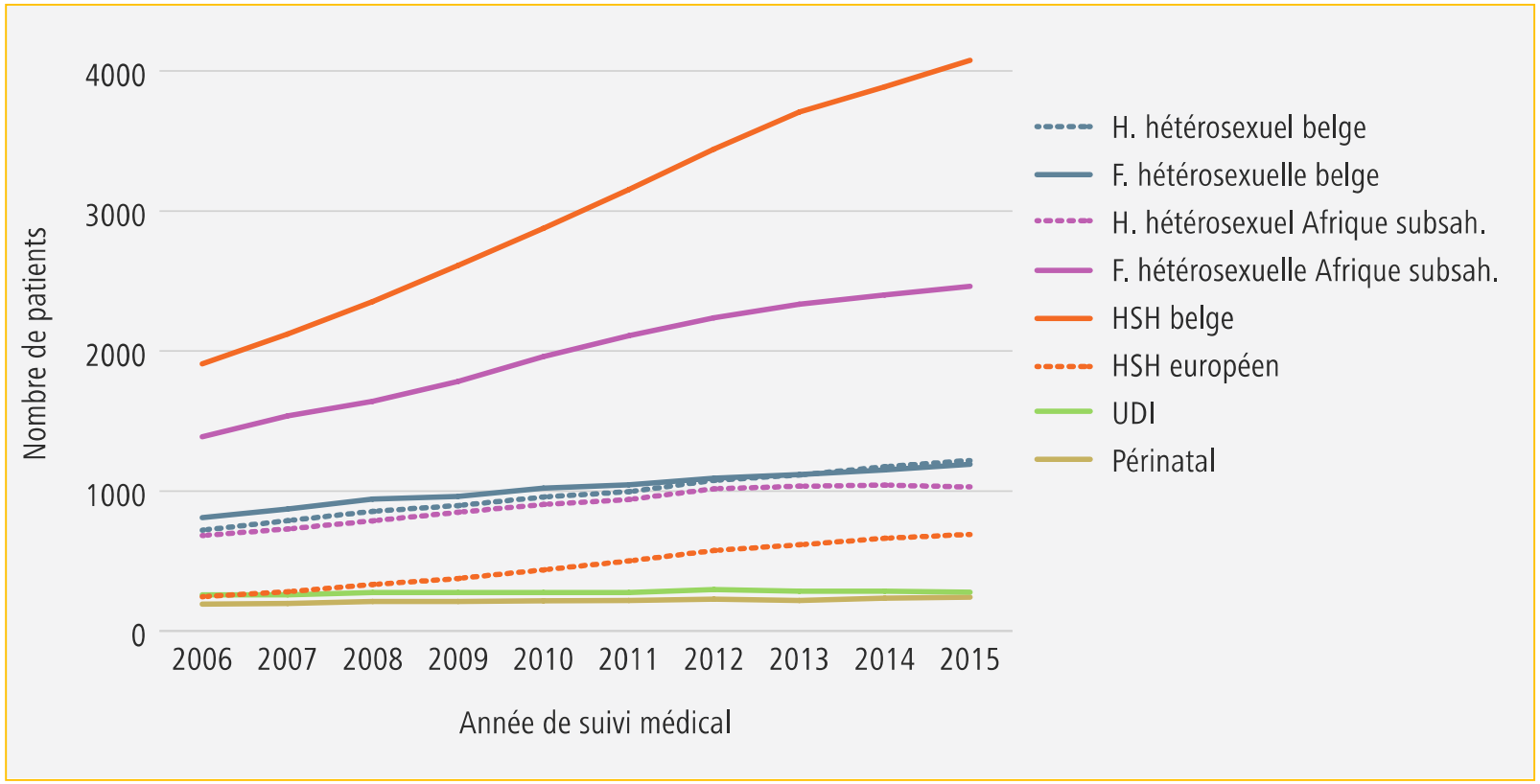


isp wiv
WETENSCHAPPELIJK INSTITUUT VOLKSGEZONDHEID
INSTITUT SCIENTIFIQUE DE SANTÉ PUBLIQUE

Evolution of newly diagnosed infections / age and sex



Evolution of the number of patients / origin and way of transmission



Belgium & CHU Saint-Pierre

- 5700 women HIV infected (ONUSIDA)
- 5436 women benefits from medical follow-up (WIV-ISP, epidemiological report 2015)
- 3115 patients followed-up in the AIDS reference center CHU Saint Pierre
  - 1197 women
- 92 children actually followed-up in the pediatrician AIDS reference center CHU Saint Pierre
  - 50 girls

CLINICAL CASE

- Marie was born in Rwanda in 1990
- Familial environment: two parents died
- She was raped in Africa in 2005
- HIV positive diagnosed in 2006
- She arrived in Belgium in 2007
- Under ART but VL 160000 copies/ml – CD4 count 14/mm³
  - Resistance to 3TC, AZT, abacavir
  - New ART prescribed
- 2008
  - VL: 4210 copies/ml
  - CD4 count: 151/mm³

MCQ

Do you refer this patient to the gynecologist?

A. Yes

B. No

Why referring to the gynecologist?

- STI more frequent
- Contraception (+ condom)
- HPV induced lesions more frequent (cervix, anal, vagina, vulvar)
- Transmission and disclosure to the partner
- Sexuality
- Mother to child transmission

MCQ
Would you talk about contraception?

A. Yes

B. No

MCQ

What kind of contraceptive method would you advise?

A. Contraceptive pill

B. IUD

C. Contraceptive implant

D. Injectable

E. Condoms alone

F. Condoms and another method

WHY DO WE HAVE TO TALK ABOUT CONTRACEPTION IN HIV POSITIVE WOMEN?

Neglect of attention to reproductive health in women with HIV infection: contraceptive use and unintended pregnancies in the Swiss HIV Cohort Study

K Aebi-Popp,[1,†] V Mercanti,[2,†] C Voide,[3] J Nemeth,[4] A Cusini,[1] B Jakopp,[5] D Nicca,[6] M Rasi,[7] A Bruno,[8] A Calmy[9,†] and B Martinez de Tejada[2,†] for the Swiss HIV Cohort Study[‡]

- A self-report anonymous questionnaire on contraceptive methods, adherence to them, and unintended pregnancies was completed by women included in the Swiss HIV Cohort Study (SHCS) between November 2013 and June 2014
- 462 women included
  - 164 (35.5%) reported not using any contraception (65 reported being sexually active, although 29 were not planning a pregnancy)
  - 298 women on contraception
    - Condoms: 219 (73.5%)
    - Oral hormonal contraception: 32 (10.7%)
    - Intrauterine devices: 28 (9.4%)
  - Among all women on contraception
    - 48 (16%) had an unintended pregnancy while on contraception (18, condoms; 16, oral contraception; 4, other methods)
    - 68.1% terminated the pregnancy
- Family planning needs in HIV-positive women are not fully addressed because male condoms remained the predominant reported contraceptive method, with a high rate of unintended pregnancies

Aebi-Popp K *et al., HIV Med.* 2018 Jan 16

CLINICAL CASE

- She is now 20 years-old
- She is not really adherent to ARV
- She has a boyfriend who is HIV positive as well
- She has an IUD

Which screening do you propose?

A. PCR *N. gonorrhoeae* and *C. trachomatis*

B. Cervical cancer screening

C. Both

CLINICAL CASE

- PCR *N. gonorrhoeae* and *C. trachomatis*
  - + Treatment with azithromycine 1 g

- Cervical cancer screening
  - – HSIL

HIV AND HPV

Incidence of precancerous lesions and cancer HPV induced in HIV positive patients

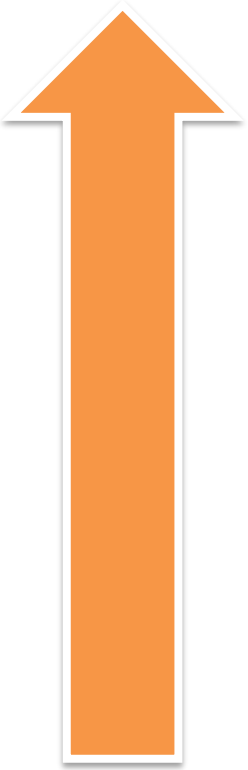
Precancerous lesions and cancer HPV induced		SIR
Anus	high grade AIN	20 -90
Anus	Cancer	14-52
Cervix	high grade CIN	9
Cervix	Cancer	6
Oropharynx	Cancer	1.6
Penis	high grade PIN / cancer	20/5
Vagina or Vulva	high grade VaIN or VIN / cancer	27/6

Chaturvedi A *et al., J Natl Cancer Inst.* 2009 Aug 19;101(16):1120-30

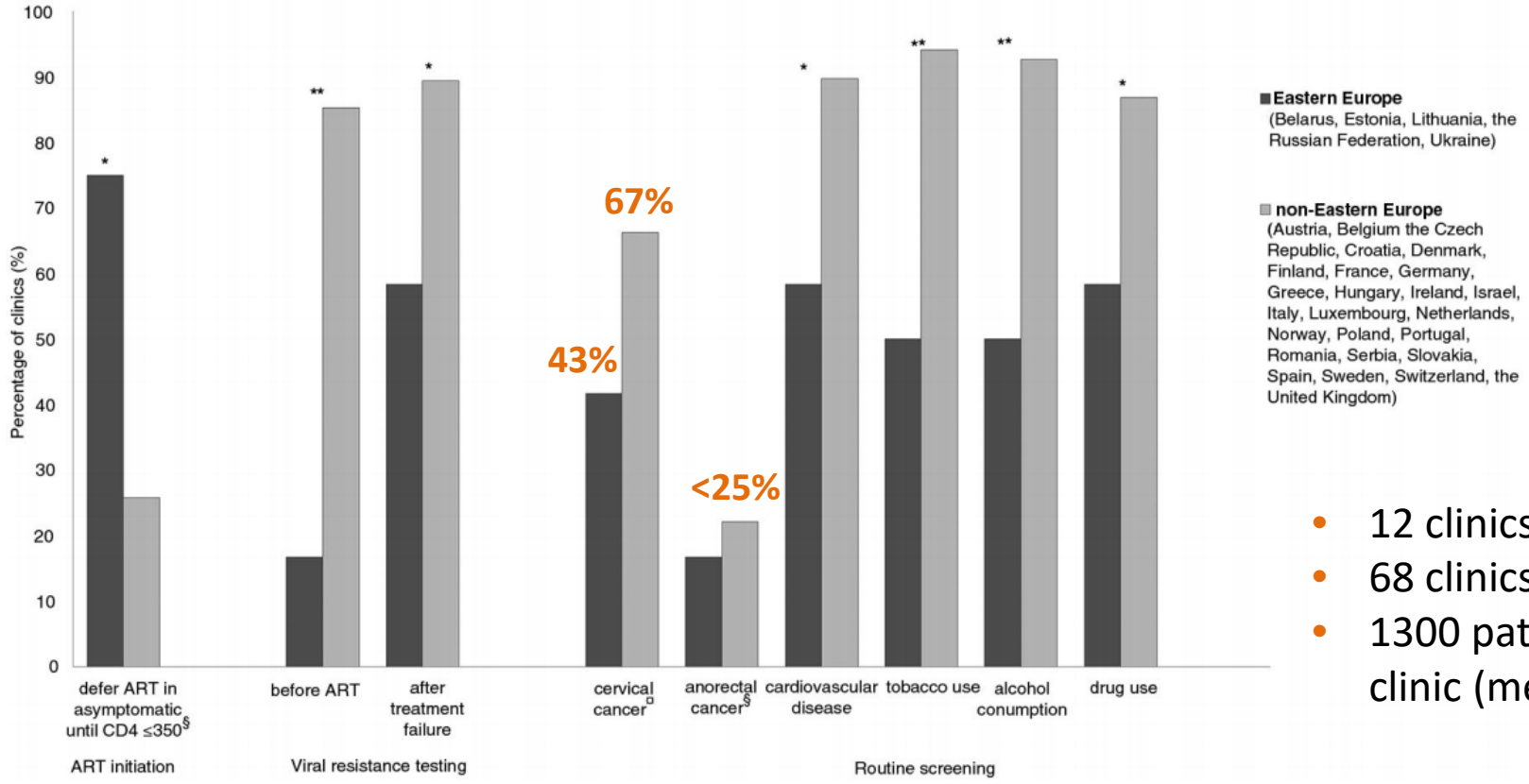
Co-infection
HPV and HIV in women

- HPV HR Infection
  - Prevalence and incidence higher
  - Infection with more genotypes and other than 16-18
  - HPV viral load higher
  - More recurrence
  - Less spontaneous elimination
  - More persistent infection
- Precancerous lesions
  - Prevalence and incidence higher
  - Spontaneous regression less frequent
  - Recurrence after treatment more frequent
  - Faster progression (3 years *versus* 15 years)
- Cancerous lesions
  - Incidence in cervical cancer is 6 to 10 times higher

Decrease in CD4 count
Increase in viral load



Cervical/anal cancer screening access in Europe



- 12 clinics
- 68 clinics
- 1300 patients per clinic (median)

Figure 1. Regional differences in self-reported HIV management: initiation of ART in asymptomatic individuals, viral resistance testing, and routine screening for selected comorbidities.

Screening for cervical cancer included performing cervical smear and gynaecological exam. Screening for anorectal cancer included performing anal pap and anorectal exam. § Based on responses from 67/68 non-Eastern European and 12/12 Eastern European clinic. § Based on responses from 67/68 non-Eastern European and 12/12 Eastern European clinic. * <0.05. ** $p<0.001$.

Laut KG *et al. J Int AIDS Soc.* 2014 Nov 2;17(4 Suppl 3):19504

WHICH SCREENING IN HIV PATIENT?

The American College of Obstetricians and Gynecologists
WOMEN'S HEALTH CARE PHYSICIANS

CDC

NIH National Institutes of Health

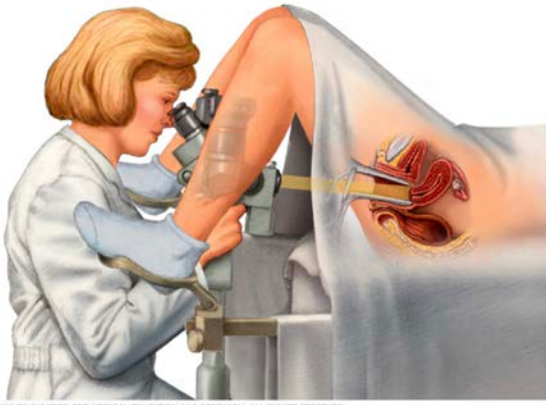
- START
  - Within the first year of first intercourse or HIV diagnosis
- HOW ? HOW OFTEN?
  - 2 cervical cytologies (pap smears) in the first year of HIV diagnosis and colposcopy (more multifocal lesions: vagina, vulva, anus)
  - If 3 cervical cytologies are normal → screening once/3 years is accepted
  - If HR-HPV screening available, use it after 30 years old
- STOP
  - Not determined

American College of Obstetricians and Gynecologist, CDC, National Institutes of Health, HIV Medicine Association

Vulva with VIN 2-3 lesions

CLINICAL CASE

- Colposcopy and biopsy: high grade cervical lesion
- Conisation (LEEP)



Colposcopy

A trained specialist (colposcopist) positions the colposcope to examine your cervix, vagina and vulva for the presence of suspicious areas of tissue that might indicate cancer.

What prevention can we propose to her?

A. Condoms use

B. Cervical cancer Screening

C. HPV vaccination

D. All these strategies

HPV PREVENTION AND VACCINATION

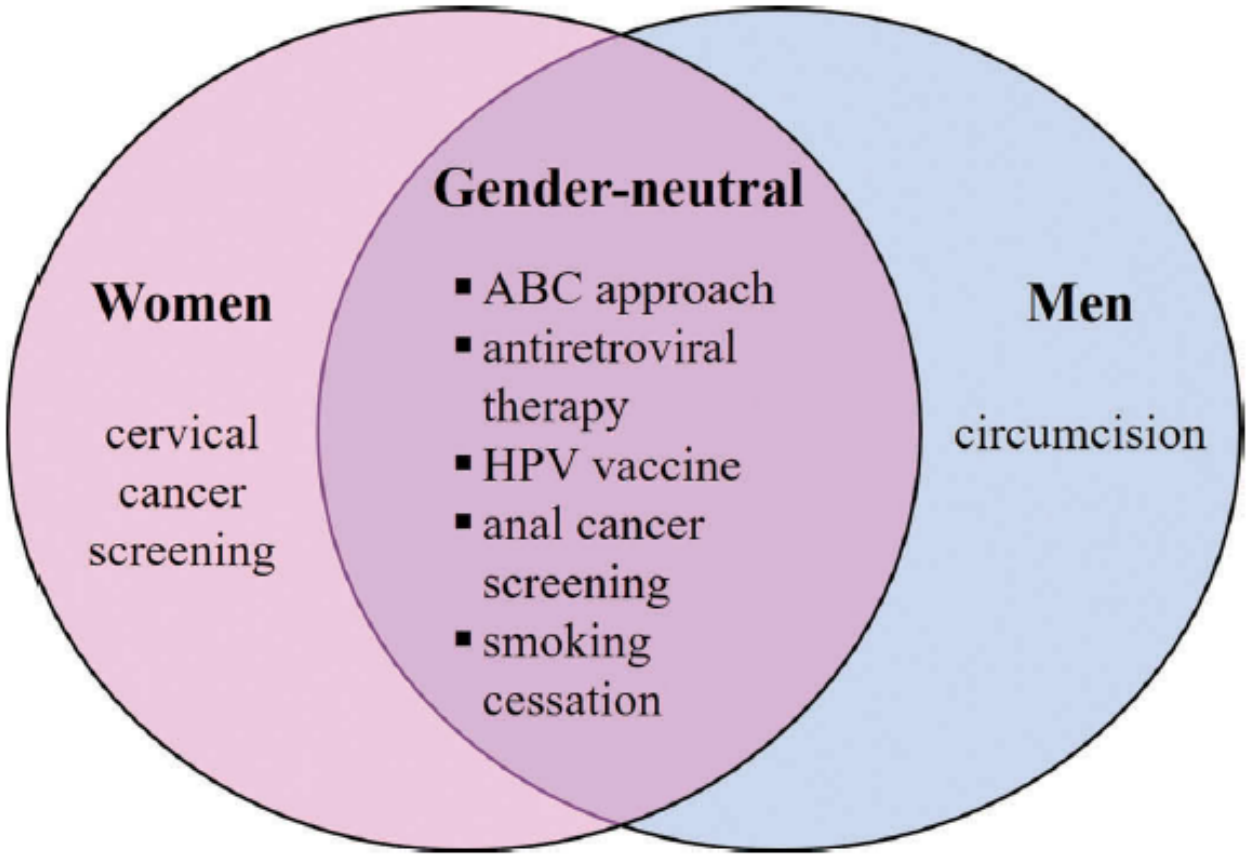


Figure 3. Prevention strategies for HPV-related diseases among people living with HIV. The ABC approach: Abstinence, Be faithful, Condom use. Full color available online.

Poljak M *et al., Expert Rev Anti Infect Ther.* 2017 Nov;15(11):987-999

Prophylactic Vaccine

	Bivalent (2vHPV)	Quadrivalent (4vHPV)	Ninevalent (9vHPV)
	Cervarix® GSK	**Gardasil®** Merck	**Gardasil9®** Merck
HPV Genotypes	16/18	16/18 + 6/11	16/18/31/33/45/52/58 + 6/11
Adjuvant	ASO4 monophosphoryl lipid A = detoxified derivative of LPS of Salmonella adsorbed on aluminium	Aluminium	Aluminium
FDA/EMA approval	2007	2006	2014/15
	Females and males	Females and males	Females and males
Indication: prevention of	▪Precancerous lesions and cancer in the cervix, vulva or vagina and anus	▪Precancerous lesions and cancer in the cervix, vulva or vagina and anus ▪Genital warts	▪Precancerous lesions and cancer in the cervix, vulva or vagina and anus ▪Genital warts
Vaccination dosing	▪0 and 6 months < 15 years ▪0, 1 and 6 months if ≥15 years	▪0 and 6 months < 15 years ▪0, 2 and 6 months if ≥15 years	▪0 and 6 months < 15 years ▪0, 2 and 6 months if ≥15 years

HPV preventive vaccines in HIV+ persons

- Globally
  - Good immunogenicity and anamnestic response
  - Good safety: less local reaction
  - No deleterious effects on CD4 levels nor on viral load control
  - Induction of cellular immune response
- Clinical studies
  - N = 575 median age 47 years, 82% males, median CD4 = 602, 84% had controlled HIVRNA
    Wilkin T., CROI 2016. Abstract 161
    - Reduction of persistent HPV was 42%
  - N = 278 median age 39 y, median C4 = 499/µl, 72% HIVRNA < 50 cp/ml, median FU = 3 years
    - Persistent 4vHPV 0.9/100 persons-year (95%CI: 0.4-1.8)
    - GW 1/100 persons-year (95%CI: 0.4-2)
    - CIN2+ 0

    Money D., Eurogin 2017. FC09-01

Levin RJ *et al. Int J STD AIDS.* 2010 May;21(5):379-80. Weinberg A *et al. J Infect Dis. 2012 Oct;206(8):1309-18.* Wilkin T *et al. J Infect Dis.* 2010 Oct 15;202(8):1246-53. Kahn JA *et al. Clin Infect Dis*. 2013 Sep;57(5):735-44. Kojic EM *et al. Clin Infect Dis.* 2014 Jul 1;59(1):127-35. Giacomet V *et al. Vaccine*. 2014 Sep 29;32(43):5657-61. Rainone V *et al. AIDS*. 2015 Mar 27;29(6):739-43. Torfs L. CID 2014 . Denny L *et al*. *Vaccine.* 2013 Nov 19;31(48):5745-53. Money DM *et al. Vaccine.* 2016 Sep 14;34(40):4799-806. Hidalgo-Tenorio C *et al. AIDS Res Ther.* 2017 Jul 18;14(1):34

Recommendations

- **EACS**:

Human Papilloma Virus (HPV)	Shared risk with HIV of contracting infection. Higher rate of cervical and anal cancer	Vaccinate with 3 doses for all HIV-positive persons up to age 26 / age 40 if MSM (health insurance coverage differs by country according to age, sex, sexual orientation). Use 9-valent vaccine if available. If HPV infection is established, efficacy of vaccine is questionable

British HIV Association
BHIVA

- **BHIVA**: **3** doses in Adults, 9vHPV (or 4vHPV), MSW or women up to 26 y, MSM up to 40 y? Children, adolescents? (2015)

World Health Organization

- **WHO:** first girls and if achieved then males and females ≥ 15 y **any age with HIV infection even if treated: 3 doses**

Preference of which vaccine according to local price/HPV distribution

The Advisory Committee on Immunization Practices (ACIP)

- **ACIP: 3** doses from 9 to 26 y to all persons with HIV MSM and transgender: up to 26

Belgium new recommendations, July 2017

Hoge Gezondheidsraad
Conseil Supérieur de la Santé

- Gender neutral recommendations
- General vaccination: girls & boys 9 - 14 years old
- Catch up vaccination: girls and boys 15 to 26 years old on individual basis
- MSM: vaccination should be offered till the age of 26 years old
- Immunocompromised patients (transplant, HIV+) may be eligible: preferential recommendation for Gardasil9®, 3 doses

ARV treatment in prevention of HPV infection and lesions

Minkoff H *et al. J Infect Dis.* 2010	n= 286 ; follow-up: 30 months	**Reduction HPV prevalence: 22 to 14%, reduction SIL incidence / prevalence**
Konopnicki D *et al. J Infect Dis.* 2013	n= 652 ; follow-up: 61 months	**HIVRNA indetectable > 40 months or CD4>350-500 > 18 months Reduction of HRHPV infection persistant**
Adler DH *et al*. *AIDS* 2012	n= 1123 ; follow-up: 66 months	**Reduction of SIL, and increase of SIL regression**
Blitz S *et al. J Infect Dis.* 2013	n=750 ; follow-up: 24 months	**Reduction HRHPV prevalence HPV HR increase of SIL regression**
Zeier MD *et al*. *AIDS* 2015	n=300 ; follow-up: 22 months	**Every month under cART reduce the risk for all HPV 9% (0.89-0.94) for HPV16 50% (0.37-0.67)**
Chen YH *et al. AIDS* 2014	n= 1360 ; follow-up: 2000 to 2008	**cART associated with a reduction of cervical cancer risk 0.20 (0.05-0.77) and 0.01 (0.00-0.47) if 85% adherence and >3 years of cART**
Konopnicki D. *EACS conference 2015*	n= 766 ; follow-up: 41 months	**HIVRNA indetectable > 37 months or CD4>350-500 > 17 months reduce the risk of SIL**

CLINICAL CASE

- Marie is now 25 years old and she wants to be pregnant
- She has good ARV adherence

- Do you think that she can be vaginally delivered?

A. Yes

B. No

What is the expected MTCT?

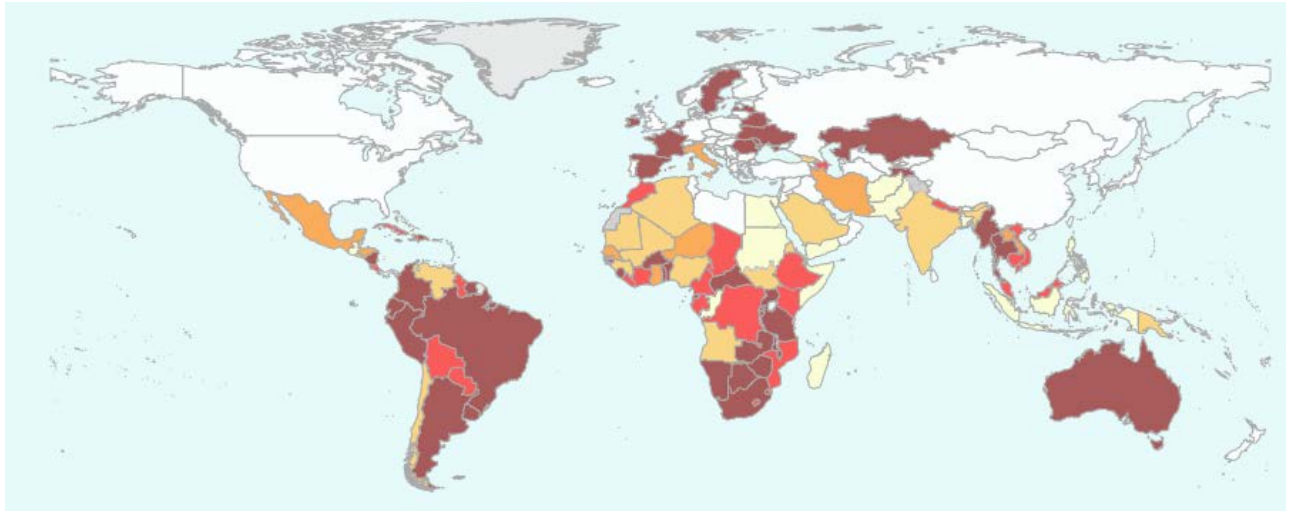
A. More than 10%

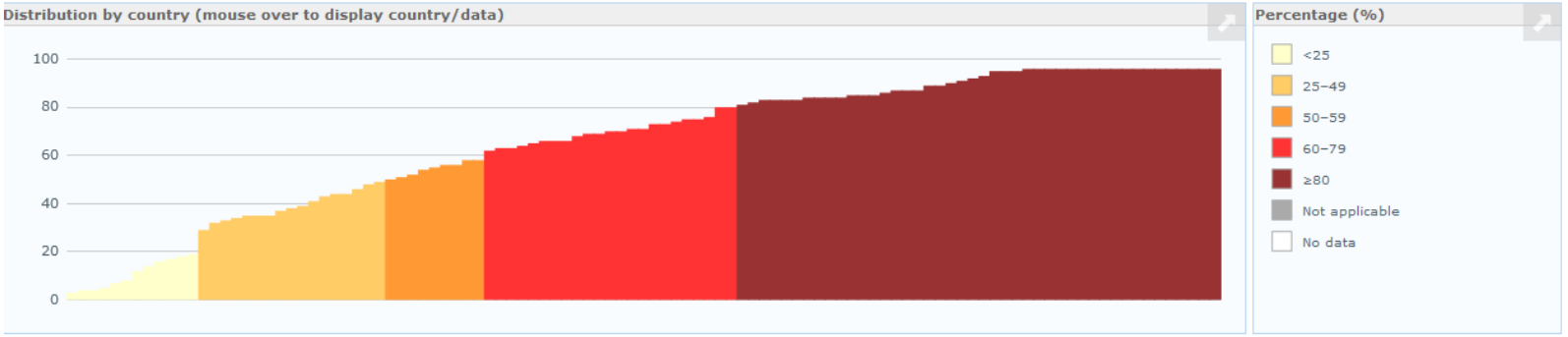
B. Less than 2%

C. Depending of the viral load

MOTHER TO CHILD TRANSMISSION

Estimated percentage of pregnant women living with HIV who received ART for preventing mother to child transmission (WHO 2016)

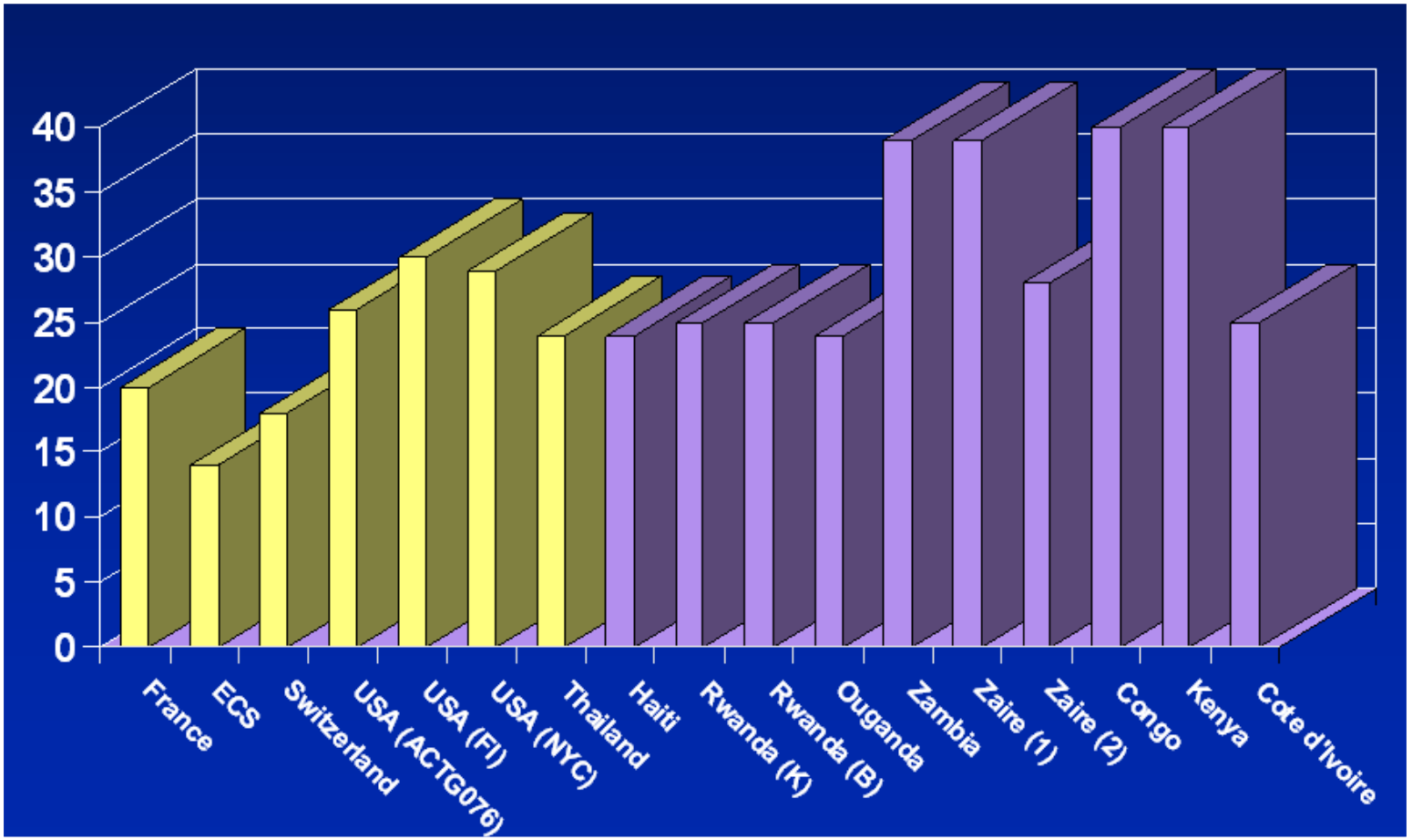




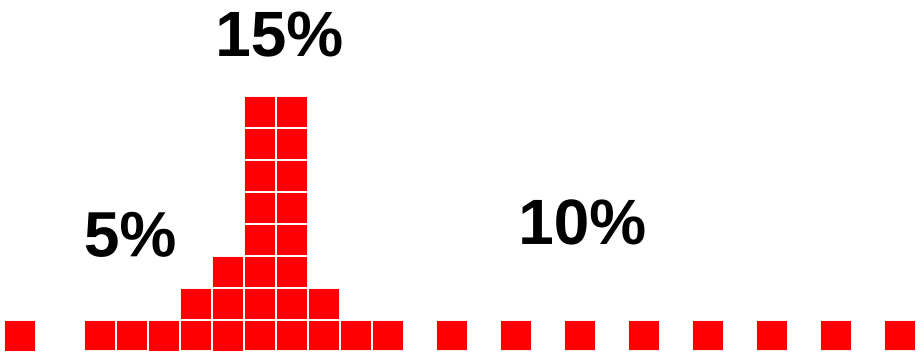
© World Health Organization 2017 | Source: Global Health Observatory (http://www.who.int/gho/en/)

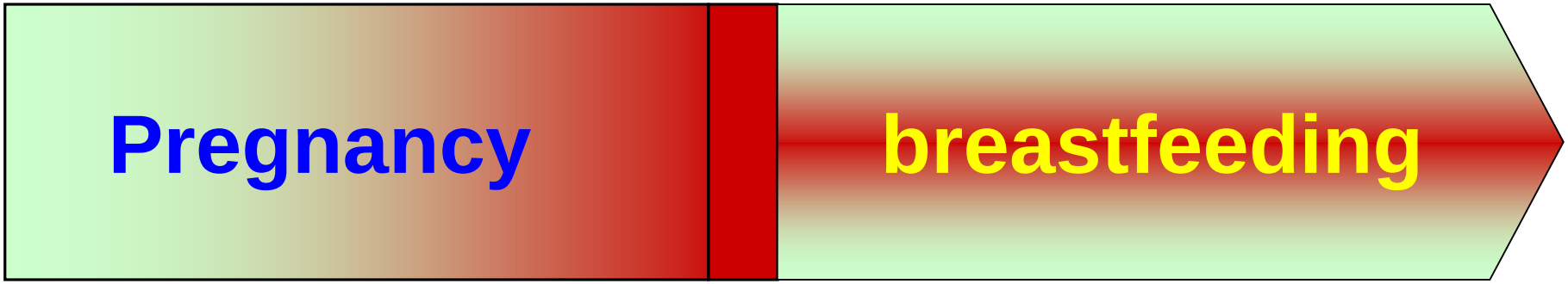
76% [60–88%] of all pregnant women living with HIV globally received medicines that prevent transmission to their babies in 2016

Mother-to-Child HIV Transmission Rates: no intervention



Time of HIV transmission

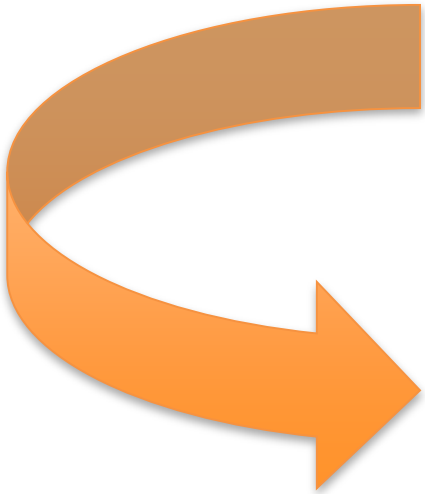




What is influencing the MTCT?

- Mother: CD4 count and viral load
- Viral: HIV2 < HIV1
- Obstetrical factors if VL is not controlled
  - Time of membrane rupture
  - Prematurity
  - Chorioamniotitis
  - Way of delivery
- Breast feeding

Vertical transmission of HIV



15-35%

~1%

- Antenatal screen
- Maternal ART
- Neonatal ART
- C. Section
- No breastfeeding

Which cART?

- Co-infection hepatitis B?
- Maternal secondary effect?
- Resistance? Don't forget the genotype before initiating treatment
- Placental penetration?
- Possible effects on the fœtus
- Pharmacology of the pregnant women

… the aim is undetectable viral load → ADHERENCE

… choose a molecule with poor secondary effects and easy to take…

Which follow-up for the mother?

- **Every women**: pregnancy diagnostic, week 36 and day 0-2 post-partum
- **If viral load is < 20 copies/ml before the pregnancy :** once/3 months
- **If start new treatment or shift of treatment:** every 2 or 4 weeks and when VL is < 20 copies/ml, every 1 or 2 months

→ Cave: be careful of tolerance, intake, vomiting, particularly at the end of the pregnancy

Obstetrical measures

- AZT IV during labour
- Elective C section
- Avoid artificial rupture of membrane, episiotomy, intern electrode…

→ Not necessary if VL is less than 20 copies/ml under ARV, but necessary if uncontrolled viral load

- CAUTION !!!!

Clinical case

- She had 3 children, normal delivery

- Now she is 45 years old
  - No more menstruation
  - Hot flushes
  - What are you going to do?

HIV AND THE MENOPAUSE

Ageing in Belgian population: 38 years in 2006 and 43 years old in 2015

Patients in follow-up, distributed by age and sex, Belgium

What do we know about it?

- Earlier age at menopause? Data are conflicting
  - Depending on CD4 count
  - Gonadal dysfunction: depending on CD4 count
- More symptoms: hot flushes, sleep disturbance, mood changes: NO
- Cardiovascular disease
  - The rate of CVD is higher in HIV positive women
- Use of hormone replacement therapy
  - Cardiovascular disease: OK if well managed
  - Venous thromboembolism: transdermal preparation preferred

Bull L *et al. Post Reprod Health*. 2018 Mar;24(1):19-25

- Bone mineral density
  - HIV infection is associated with 6,4 fold increased risk of low BMD and 3-fold increased risk of osteoporosis
  - Tenofovir disoprosil fumarate has a negative impact on BMD
  - The new tenofovir prodrug has little impact on BMD and is associated with recovery of previously lost BMD
  - Other risk factors: smoking, alcohol-use, African American or Hispanic ethnicity, low BMI, vitamin D deficiency, steroid use…
- Interaction between ARV and hormon replacement therapy?
  - No data
  - Extrapolation of data about contraception and the interaction with the cytochrome P450 (PI, cobicistat, NNRT inhibitors)

Bull L *et al. Post Reprod Health*. 2018 Mar;24(1):19-25

Bone disease: screening and diagnosis

Condition	Characteristics	Risk factors	Diagnostic tests
Osteoporosis • Postmenopausal women and men aged ≥ 50 years with BMD T-score ≤ -2.5 • Premenopausal women and men aged < 50 years with BMD Z-score ≤ -2 and fragility fracture	• Reduced bone mass • Increased incidence of fractures in HIV-positive persons • Asymptomatic until fractures occur Common in HIV • Up to 10-15% prevalence of osteoporosis • Aetiology multifactorial • Loss of BMD observed with ART initiation • Greater loss of BMD with initiation of certain ARVs[i]	Consider classic risk factors[ii] and estimate fracture risk using FRAX. Consider DXA in any person with ≥ 1 risk of:[iii] 1. Postmenopausal women 2. Men ≥ 50 years 3. Those between 40-50 years with high fracture risk (> 20% 10-year fracture risk based on FRAX assessment without DXA) 4. History of low impact fracture 5. High risk for falls[iv] 6. Clinical hypogonadism (symptomatic, see Sexual Dysfunction) 7. Oral glucocorticoid use (minimum 5 mg/qd prednisone equivalent for > 3 months) Preferably perform DXA in those with above risk factors prior to ART initiation. Assess effect of risk factors on fracture risk by including DXA results in the FRAX® score (http://www.shef.ac.uk/FRAX) • Only use if > 40 years • May underestimate risk in HIV-positive persons • Consider using HIV as a cause of secondary osteoporosis[v]	**DXA scan** **Rule out causes of secondary osteoporosis if BMD low**[vi] **Lateral spine X-rays** (lumbar and thoracic) if low spine BMD, osteoporosis on DXA, or significant height loss or kyphosis develops. (DXA-based vertebral fracture assessment can be used as an alternative to lateral spine X-ray).

- GIVE Adequate information
  - Symptoms
  - Benefits and risk of HRT: vasomotor symptoms, low mood, BMD, sexual life…
  - Evaluation of potential drug interaction

Bull L *et al. Post Reprod Health*. 2018 Mar;24(1):19-25

CONCLUSION

- Gynecological management of HIV women is challenging
  - Counselling about I.S.T., contraceptive method, sexual life, reproductive health, mother to child transmission, partner transmission, disclosure to the partner
  - Prevention and screening of I.S.T., cervical cancer,
  - Adherence to ARV, interactions, desire for pregnancy?
- Multidisciplinary team
  - Infectious disease
  - Pediatrician
  - Social worker
  - Psychologist
  - Gynecologist/ obstetrician

Deborah Konopnicki, Yannick Manigart, Patricia Barlow…

THANK YOU

Healthcare challenges for women living with HIV in Eastern Europe as illustrated by situation in Ukraine

Marta Vasylyev, MD
Lviv Regional Public Health Center
Lviv, Ukraine

Disclosure

- No

Introduction

- Women account for more than half the number of people living with HIV worldwide. Young women (10-24 years old) are twice as likely to acquire HIV as young men the same age.
- HIV disproportionately affects women and adolescent girls because of vulnerabilities created by unequal cultural, social and economic status.
- Unaccommodating attitudes towards sex outside of marriage and the restricted social autonomy of women and young girls can reduce their ability to access sexual health and HIV services.
- Much has been done to reduce mother-to-child transmission of HIV, but much more needs to be done to reduce the gender inequality and violence that women and young girls at risk of HIV often face.

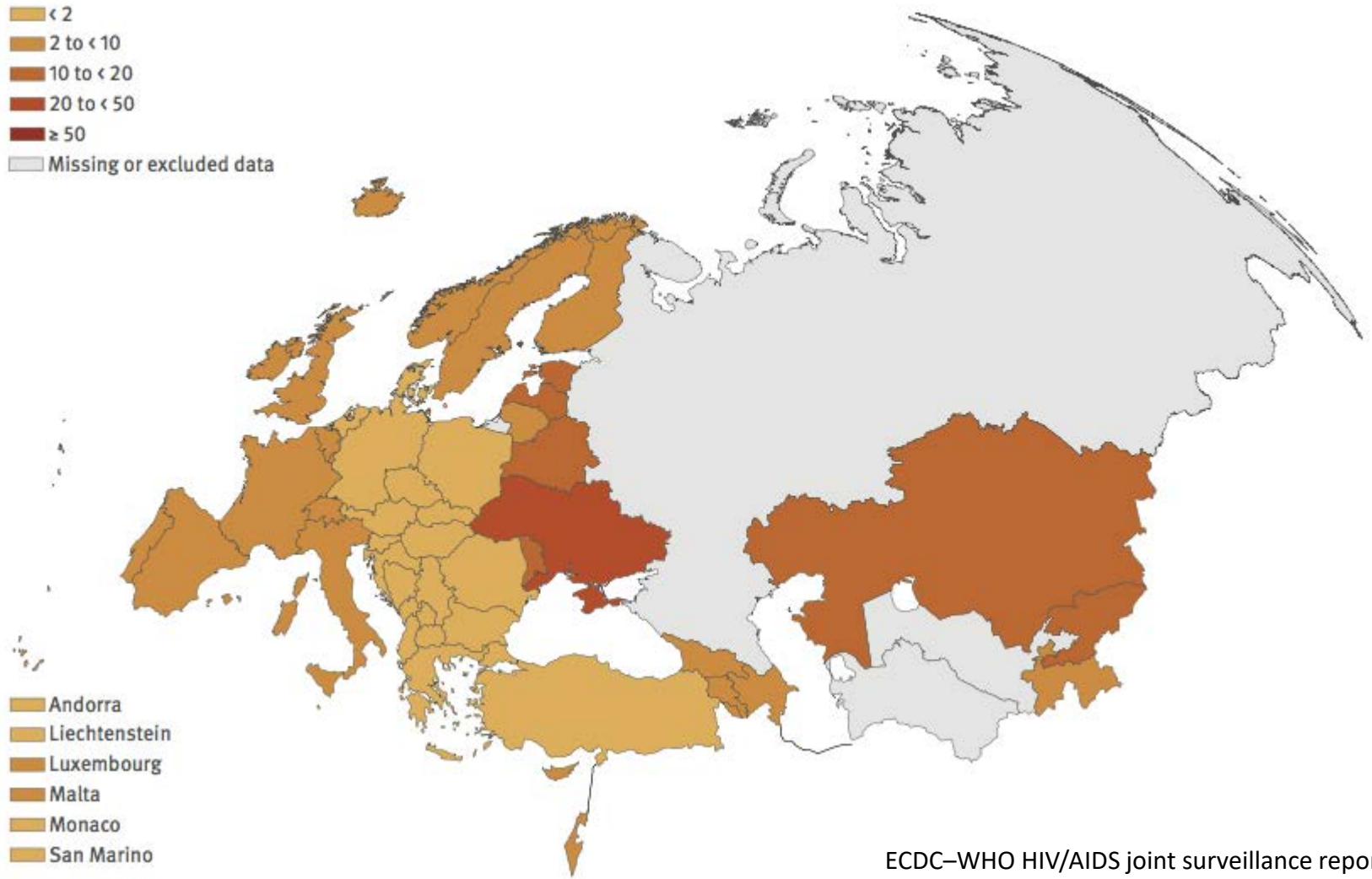
Avert Global information and education on HIV and AIDS 2017

Current status

- In 2016, there were an estimated 17.8 million women living with HIV (aged 15 and older), constituting 51% of all adults living with HIV.
- HIV/AIDS is the leading cause of death among women of reproductive age (aged 15–44).
- In 2016, of the total estimated 1.8 million new HIV infections globally, almost 43% were among women.
- In 2016, new infections among young women (aged 15–24 years) were 44% higher than they were among men in the same age group.
- In some regions, women who are exposed to intimate partner violence are 50% more likely to acquire HIV than women who are not exposed.
- In 2016, around 76% of pregnant women living with HIV received antiretroviral medicines to prevent the transmission of HIV to their children

U.S. Centers for Disease Control and Prevention, HIV Among Women, March 2017; U.S. Census Bureau, July 2016; UNAIDS Fact Sheet July 2017: Global HIV Statistics; UNAIDS Data 2017; UNAIDS Global AIDS Update 2017

New HIV diagnoses in women per 100,000 female population, 2016



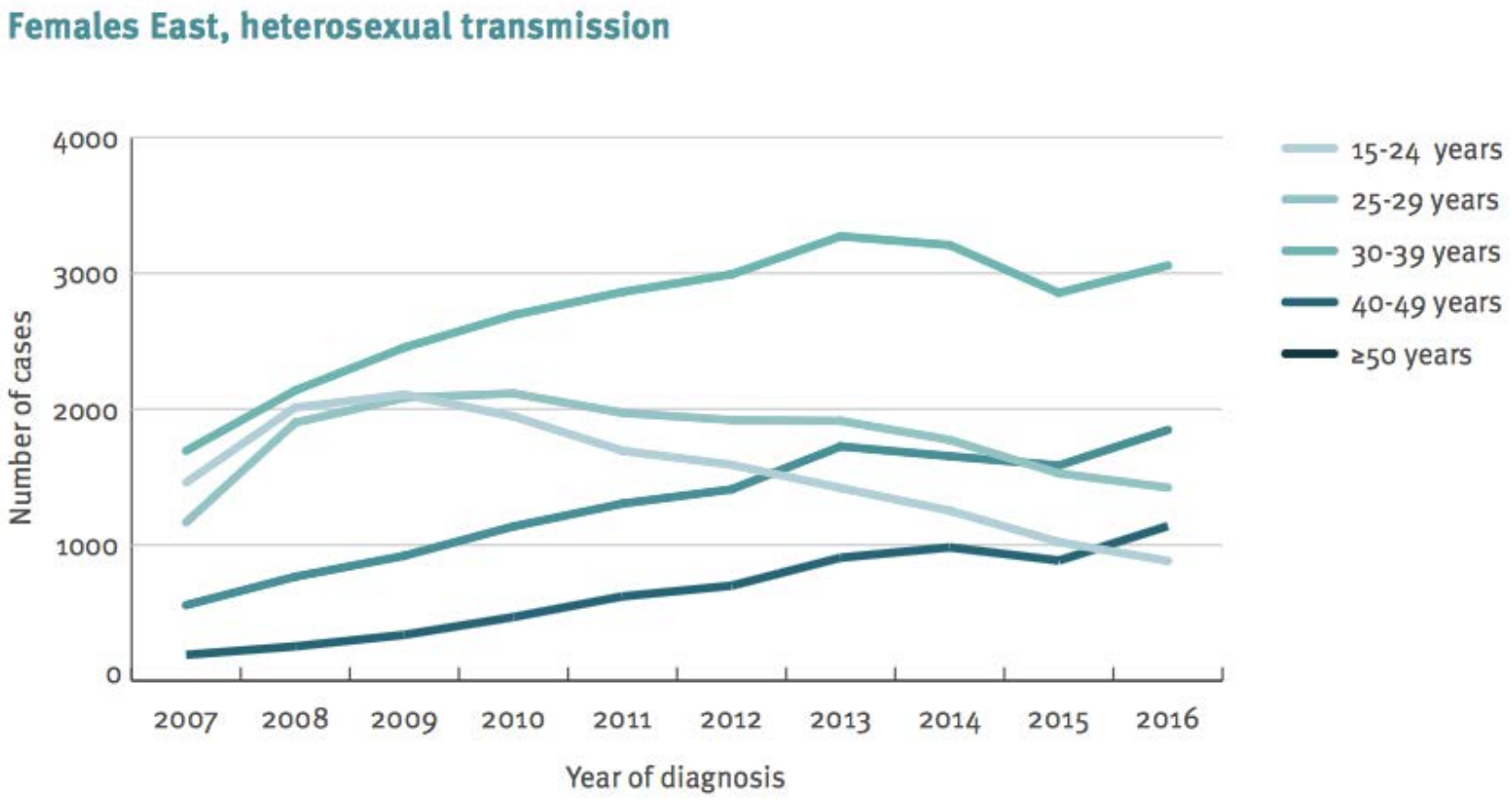
ECDC–WHO HIV/AIDS joint surveillance report 2017

HIV in women in Eastern Europe

- Estimate 50,000 new HIV diagnoses in women reported by 13 countries in 2017 with a rate of 50.2 per 100,000 women
- Mother to child transmission 0.9%
- Number of newly diagnosed women increased by 37% in 2017

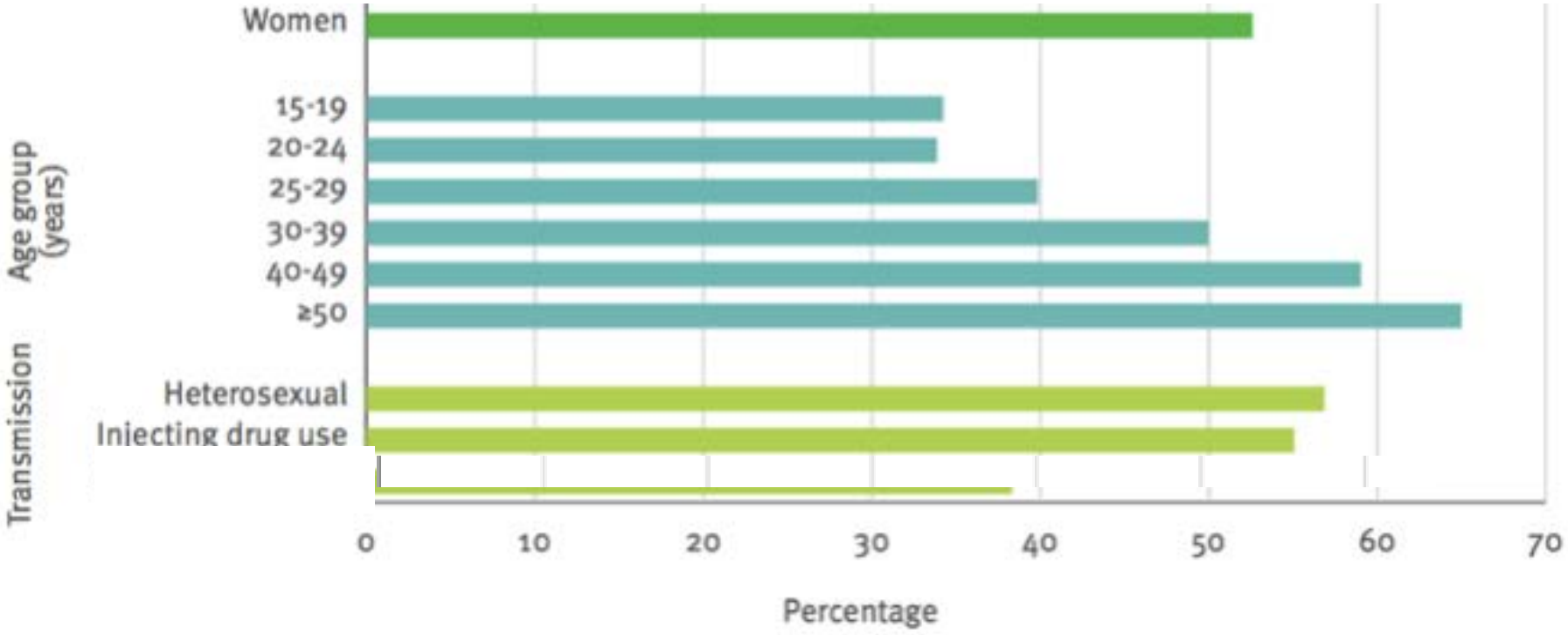
ECDC–WHO HIV/AIDS joint surveillance report 2017

Dynamics during the last decade



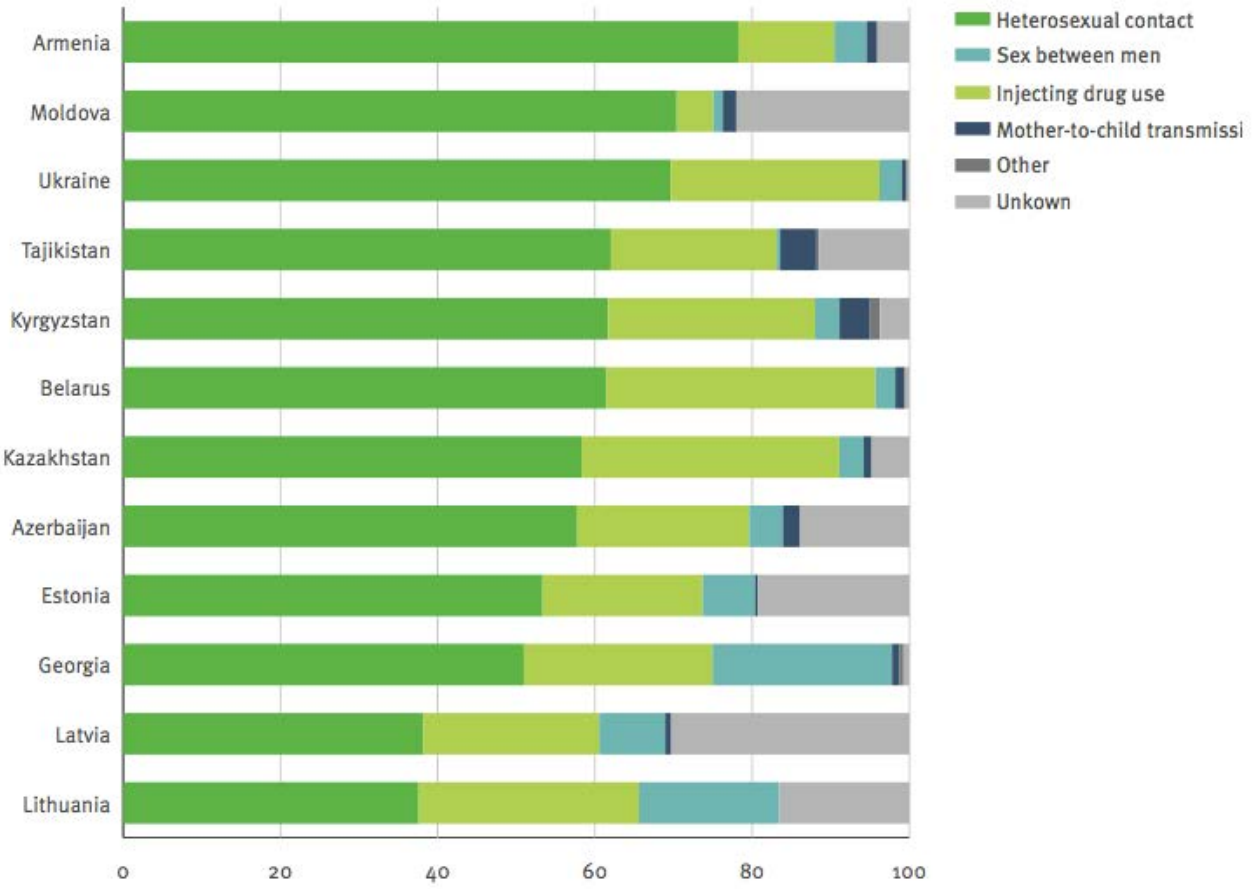
ECDC–WHO HIV/AIDS joint surveillance report 2017

Proportion of women diagnosed late (CD4 cell count < 350 per mm^3) by age and transmission, WHO European Region, 2016



ECDC–WHO HIV/AIDS joint surveillance report 2017

New HIV diagnoses by country and transmission mode 2016 (n=24641)



No data from Russia, Turkmenistan or Uzbekistan.

Specific features regarding HIV in Eastern Europe

- In the East of the region, unprotected sex between women and men and injecting drug use remain the main modes of HIV transmission

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HIV Medicine (2017)

REVIEWS IN ANTIRETROVIRAL RESEARCH

Promoting high standards of care for women living with HIV: position statement from the Women Against Viruses in Europe Working Group

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Kowalska JD *et al., HIV Med.* 2018 Feb;19(2):167-173

Key areas to optimize care for women

A. Psychosocial aspects of HIV diagnosis and care

B. Mental health

C. Pharmacokinetics, toxicity and tolerability of antiretroviral therapy

D. Coinfections, comorbidities and menopause

E. Sexual and reproductive health and pregnancy

Barriers to care in HIV-positive women (individual)

- Fear - skip appointments to avoid the possibility to meet people they know
- Lack of personal resources
  - Unemployment, lack of health insurance, unstable housing, poverty
- Care responsibilities for children and other family members
- Lack of HIV knowledge and education

Barriers to care in HIV-positive women (health care systems)

- Lack of psychological support and mental health services
- Lack of management in health care institutions
- Lack of family planning and contraception programs /education
- Out of pocket expenses on diagnostics and treatment
- Lack of integrated HIV services

Barriers to care in HIV-positive women (societal or cultural)

- Lack of social support services
- Long distance and/or expensive transportation to the HIV clinic
- Insufficient harm reduction programs - lack of integrated opioid substitution services
- Emigration to western countries - loss of follow-up
- Limited resources

- To demonstrate the challenges surrounding the management of HIV care for women in Eastern Europe, I would like to share an illustrative case

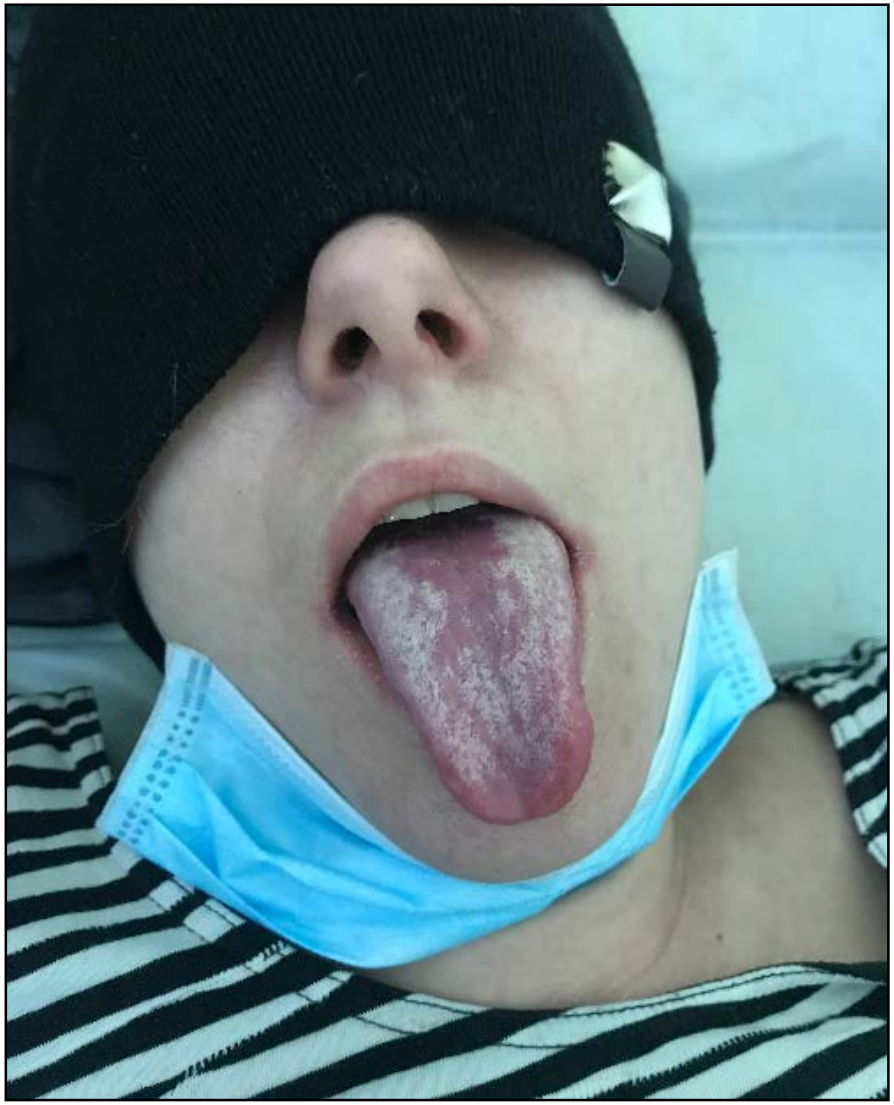
Olena 18 years

- Bisexual woman
- Active injecting drug user
- Reported at least 6 sexual casual partners for the last month
- No income, supported by her uncle

ADMISSION 17TH OF FEBRUARY 2017 TO LVIV REGIONAL PUBLIC HEALTH CENTER

Physical examination

- Severe dyspnoea on exertion
- Dry cough
- Central cyanosis
- Weakness
- Multiple injection signs in both arms
- T 38°C, 2 months
- Weight loss
  - 4 kg since last three months, now 46 kg, 163 cm
- Denied drugs use



Disease history

- Got sick in December 2016 (fever, fatigue, weight loss)
- January 2017: a bacterial pneumonia was treated in another hospital

Anamnesis

- A child from first pregnancy, was breastfed for up to 4 months
- Father died from TB when she was 4
- Mother died from Kaposi's sarcoma when she was 7
- She grew up with her grandmother and uncle

Anamnesis

- Although both parents were HIV infected and her grandmother knew that she was HIV infected she was never told
- Her growth and development were normal although she frequently suffered from respiratory tract diseases throughout her childhood

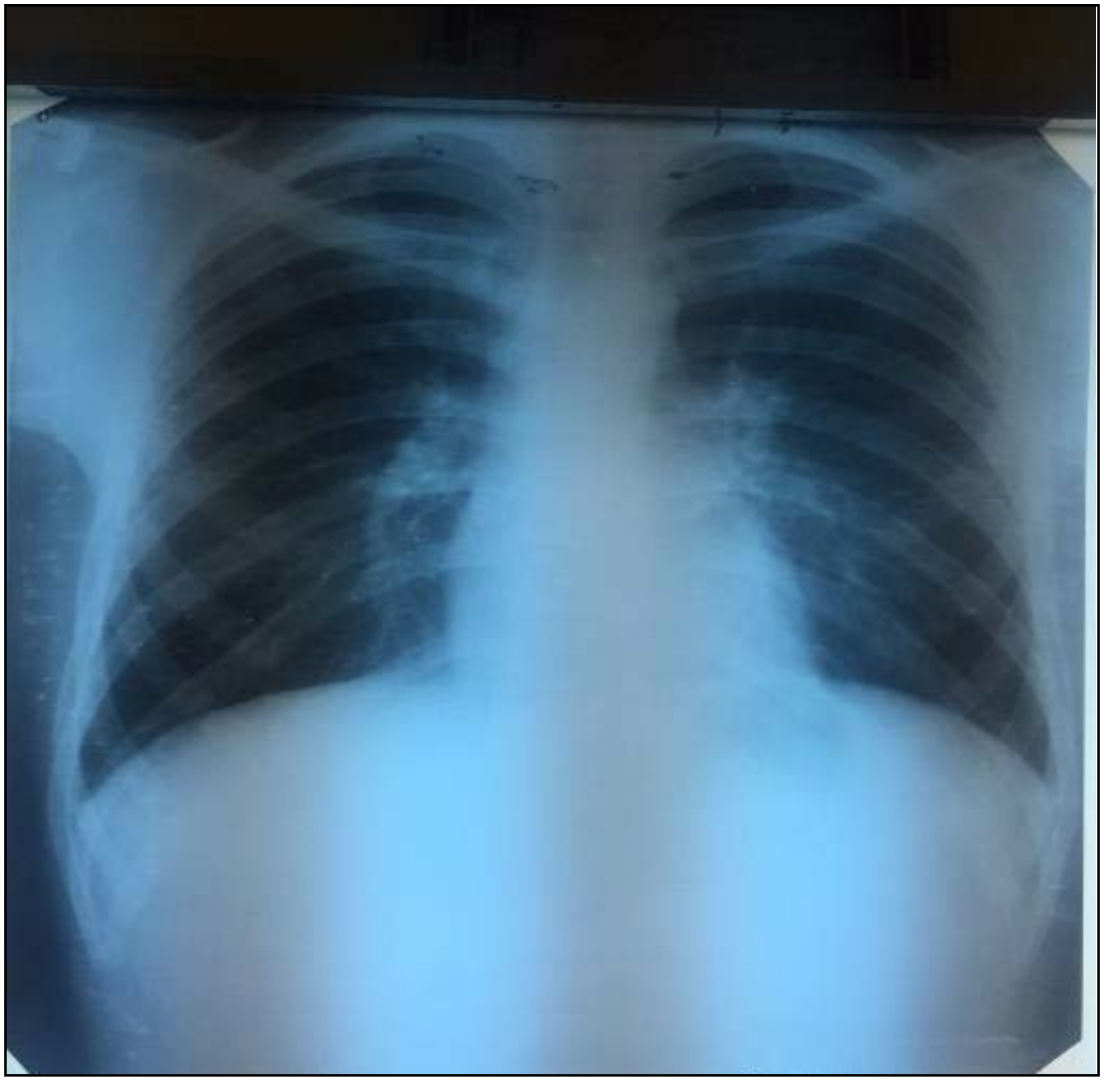
Labs

- HIV antibodies detected
- Baseline CD4 3 cells/ml
- VL 2,284,424 copies/ml
- RBC 3.71 million cells/µl; Hb 98 g/l
- WBC 640 cells/cm; PLT 179,000 cells/ml
- NEU 54.2 %; LYM 35.7 %

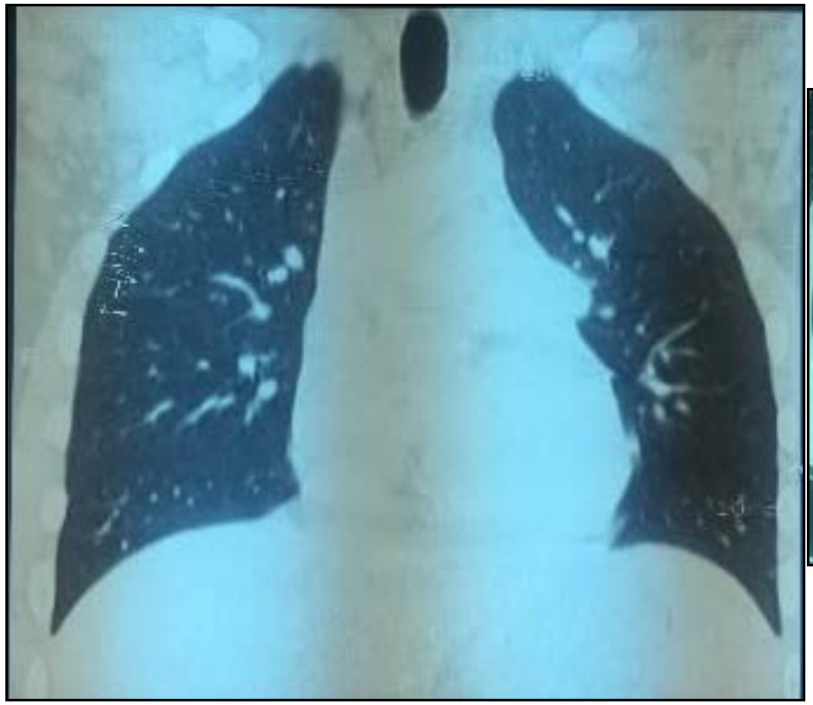
Labs

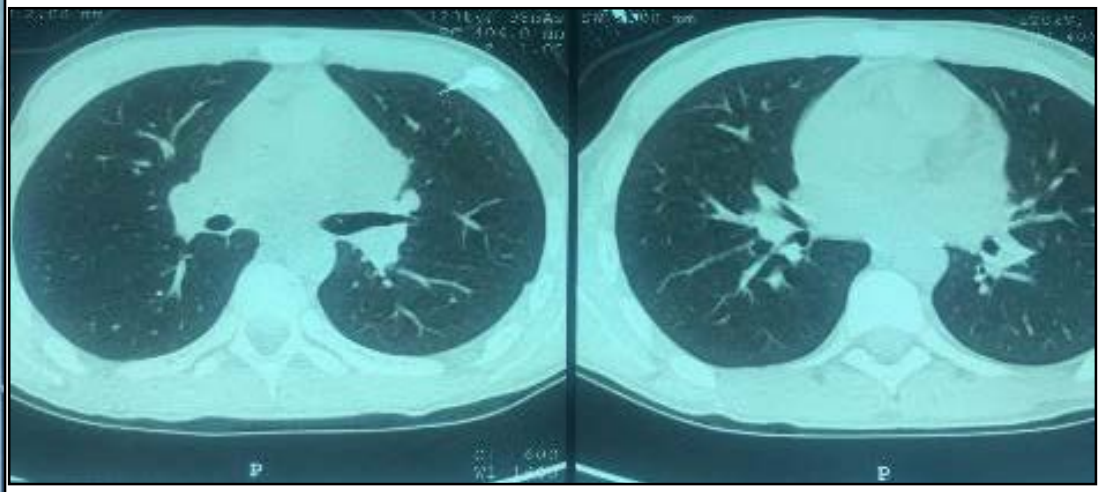
- Total bilirubin 6.8 mmol/l
- Urea 4.95 mmol/l, creatinine 64 mmol/l
- AST 24 U/l; ALT 19 U/l; LDH 431 U/l
- Blood glucose 4.96 mmol/l
- Serum 10.2 mmol/l, protein 84
- No HCV and HBV antibodies
- Negative serology for toxoplasmosis

X ray 17.02.2017



CT scan 18.02.2017





WHAT ADDITIONAL DIAGNOSTIC PROCEDURES WOULD YOU PERFORM?

Additional procedures

- Sputum smear microscopy – negative
- GeneXpert MTB/RIF sputum negative
- Mycobacterial culture – sputum examination negative
- IGRA test negative
- Abdominal ultrasound examination showed mesenteric lymphadenopathy

If I could order everything I want…

- Oxygen level
- Direct fluorescent Ab to detect PcP
- Ultrasound or CT guided biopsy
- Urine LAM test for TB
- Blood and urine TB culture
- Fungal blood markers
- Histoplasma Ag
- Cryptococcal Ag
- CT of brain

What is your differential diagnosis?

A. Bacterial Pneumonia

B. Pneumocystis Pneumonia

C. Lymphoma

D. Cryptococcal disease

E. TB

F. Histoplasmosis

- 18.02.2017: was transferred to a TB hospital
- Started of empiric treatment for extrapulmonary TB
- HIV infection, 4th clinical stage

HOW WOULD YOU TREAT HER?

TB treatment

60 days

- Isoniazid 300 mg
- Rifampicin 600 mg
- Pyrazinamide 2000 mg
- Ethambutol 1500 mg

Once per day

120 days

- Isoniazid 300 mg
- Rifampicin 600 mg

Once per day

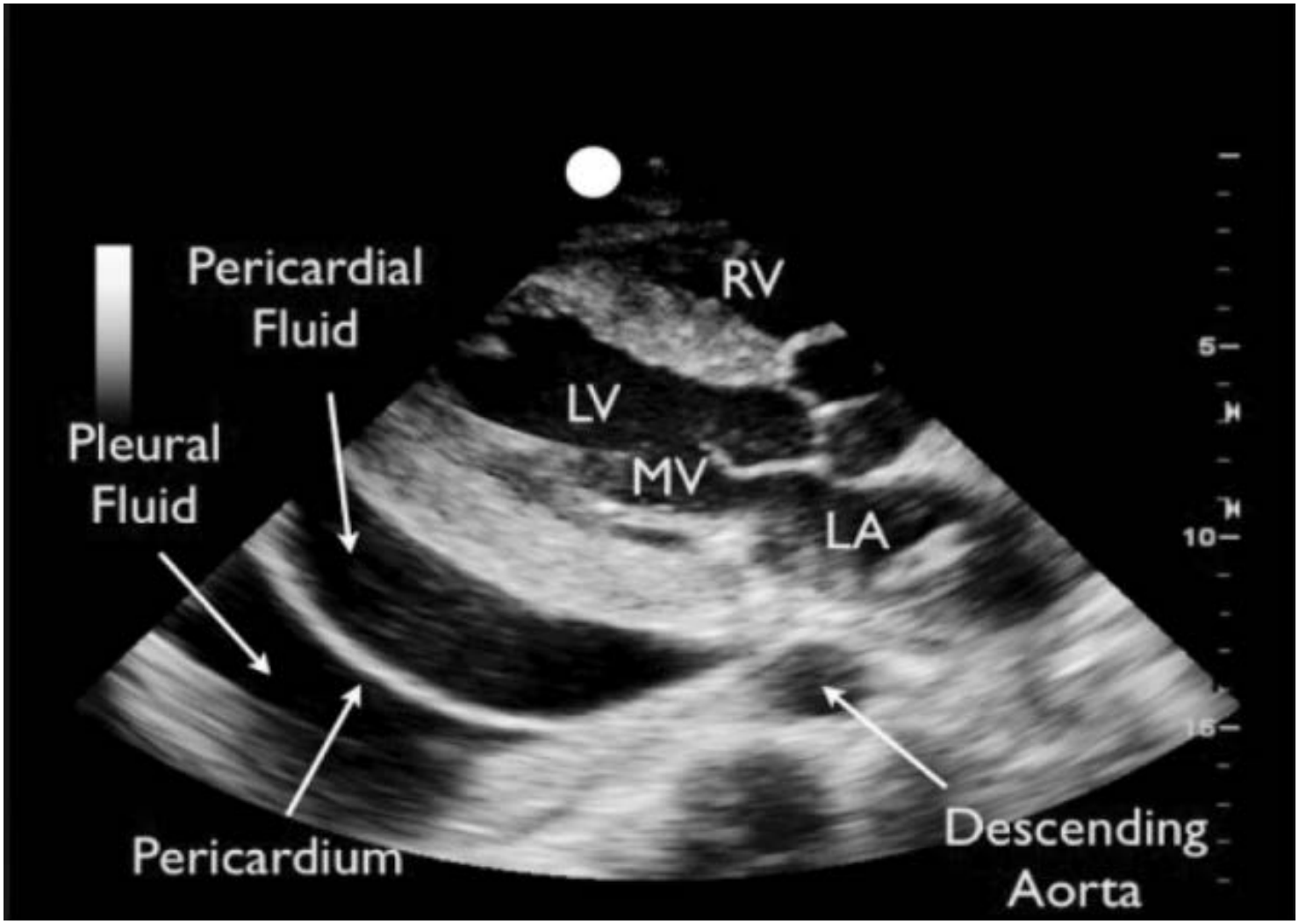
Opportunistic Infections

- Sulfamethoxazole and trimethoprim 960 mg daily
- Azithromycin 1200 mg once per week
- Fluconazole 100 mg twice daily, 7 days

Despite the initiation of treatment she remains very “weak”

What next?

23.02.2017


Pericardial Fluid
Pleural Fluid
RV
LV
MV
LA
Pericardium
Descending Aorta
5
10
15

- Acute pericarditis was diagnosed and she was transferred to the department of cardiovascular surgery
- TB treatment and opportunistic infections treatment continued

- 24.02.2017 surgery: puncture and drainage of the pericardial cavity
  - 700 ml of serous exudate obtained
- 25.02.2017 surgery: puncture of the left pleural cavity
  - 240 ml of serous exudate obtained
- GeneXpert MTB/RIF pleural and pericardial fluid positive (RIF resistance not detected)
- Mycobacterial culture of pleural and pericardial fluid examination positive

WHAT ABOUT TREATING HIV?

- 28.02.2017: patient was transferred to the TB hospital for further TB treatment
- 06.03.2017: started ART TDF / FTC / EFV
- Control of treatment: echo CG from 06.03.2017 - normal
- Condition after drainage resolved

- X-ray control 25.04.2017: pulmonary fields and cardiac shadow within normal limits
- Sputum smear microscopy – negative
- Clinically: no complaints
- 16.02.2018: CD4 279 cells/ml
- VL <20 copies/ml
- Condition is satisfactory. She gained 6 kg in weight. Active.

DISCUSSION

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