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Mortality in migrants living with HIV in Western European countries: differences by geographical origin and gender

Susana Monge on behalf of the COHERE collaboration in EuroCoord



Presenter Disclosure Information

Discloses no conflict of interest

Introduction

Objective

Methods

Results

Conclusions

HIV/AIDS in migrants living in Western Europe

- Migrants living in Western European countries are disproportionately affected by HIV/AIDS: 58% of HIV and 35% of AIDS cases in 2006 [Del Amo EJPH 2011]
- Inequalities in HIV/AIDS-related outcomes has been described [Monge HIVMed 2013, Alvarez-Del Arco EJPH 2012]

Limitations of previous studies

- Socio-demographic and epidemic profiles are very heterogeneous among groups of migrants, but...
 - ✓ Results are frequently not reported other than for Sub-Saharan Africans
- Gender has been shown to be an important effect modifier, however...
 - ✓ Gender specific-effects in studies addressing migrants have been insufficiently explored
- Insufficient sample size

Motivation

- Large cohort collaborations needed to characterize HIV-outcomes in migrants by:
 - ✓ Region of origin
 - ✓ Sex

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- To evaluate differences in overall mortality between migrant and native populations in Western Europe by geographical origin and sex, within a European Collaboration of HIV cohorts (COHERE)

Methods

- COHERE - Collaboration of Observational HIV Epidemiological Research in Europe in EuroCoord
 - ✓ Collaborative group of 33 HIV cohorts across Europe
 - ✓ Data exchange protocol and data quality control procedures
 - ✓ Data from 2011 COHERE merger

Methods

- Patients selection criteria:
 - ✓ Cohorts collecting geographical origin
 - ✓ Western European countries
 - ✓ After 1st January 1997
 - ✓ Age 16 -75
 - ✓ Non perinatal infection or hemophilia
 - ✓ Antiretroviral naïve
 - ✓ ≥ 1 follow-up visit after recruitment

Methods

- Patients were followed-up from recruitment up to the earliest date among:
 - ✓ Death
 - ✓ Administrative censoring (1 year before last cohort update)
 - ✓ Loss to follow-up (no visit since 1 year before administrative censoring)

Methods

- Baseline variables
 - ✓ Sex
 - ✓ Age
 - ✓ Transmission group
 - ✓ CD4 count and Viral Load
 - ✓ AIDS
 - ✓ History of hepatitis B (HBV)



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Patients

- N= 111,155
 - ✓ Men: N =79,783 (71.8%)
 - ✓ Women: N = 31,372 (28.2%)
- Median [IQR] follow-up: 3.9 years [1.6-7.1]
 - ✓ Men: 3.8 [1.5-7.0]
 - ✓ Women: 4.1 [1.6-7.3]
- Deaths: n=5,692
 - ✓ Men: 4,370
 - ✓ Women: 1,322

Results: **MEN** [n(%) or Me(IQR)]

	WEWC	EE	NAME	SSA	LAC	ASIA	OTH/UNK
Total N	55,525	4,808	858	6,845	3,766	1,102	6,978
Age	36.7 (31.0-43.4)	37.6 (32.0-44.3)	37.9 (32.2-44.8)	36.5 (31.1-42.2)	34.6 (28.9-41.3)	34.4 (28.7-40.7)	35.0 (29.8-41.0)
Transmission							
MSM	34,061 (61.3)	1,343 (27.9)	232 (27.0)	579 (8.5)	2,179 (57.9)	634 (57.5)	3,650 (53.1)
HTX	10,344 (18.6)	1,704 (35.4)	383 (44.6)	5,440 (79.5)	1,246 (33.1)	274 (24.9)	1,030 (15.0)
IDU	6,949 (12.5)	1,148 (23.9)	166 (19.4)	76 (1.1)	67 (1.8)	42 (3.8)	1,436 (20.9)
OTH	4,171 (7.5)	613 (12.8)	77 (9.0)	750 (11.0)	274 (7.3)	152 (13.8)	763 (11.1)
History of HCV							
Yes	8,943 (16.1)	118 (2.5)	170 (19.8)	260 (3.8)	169 (4.5)	91 (8.3)	1,524 (22.2)
No	34,809 (62.7)	349 (7.3)	568 (66.2)	4,965 (72.5)	2,877 (76.4)	705 (64.0)	3,540 (51.5)
Unknown	11,773 (21.2)	4,341 (90.3)	120 (14.0)	1,620 (23.7)	720 (19.1)	306 (27.8)	1,815 (26.4)
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Unknown	12,441 (22.4)	1,457 (30.3)	103 (12.0)	1,305 (19.1)	557 (14.8)	275 (25.0)	2,520 (36.6)

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CD4 count (cells/mm³)	394 (225-571)	311 (116-511)	340 (158-540)	261 (121-420)	344 (175-526)	342.5(170-510)	354 (180-540)
Viral Load (log cop/μl)	4.6 (4.0-5.2)	4.7 (4.1-5.3)	4.7 (3.9-5.2)	4.6 (3.9-5.2)	4.6 (3.9-5.0)	4.5 (3.8-5.0)	4.7 (4.0-5.3)
Start HAART	40,564 (73.1)	3,818 (79.4)	633 (73.8)	5,099 (74.5)	2,491 (66.1)	771 (70.0)	4,768 (69.3)
Lost to follow-up	16,659 (30.0)	1,463 (30.4)	228 (26.6)	2,420 (35.4)	1,141 (30.3)	256 (23.2)	2,978 (43.3)

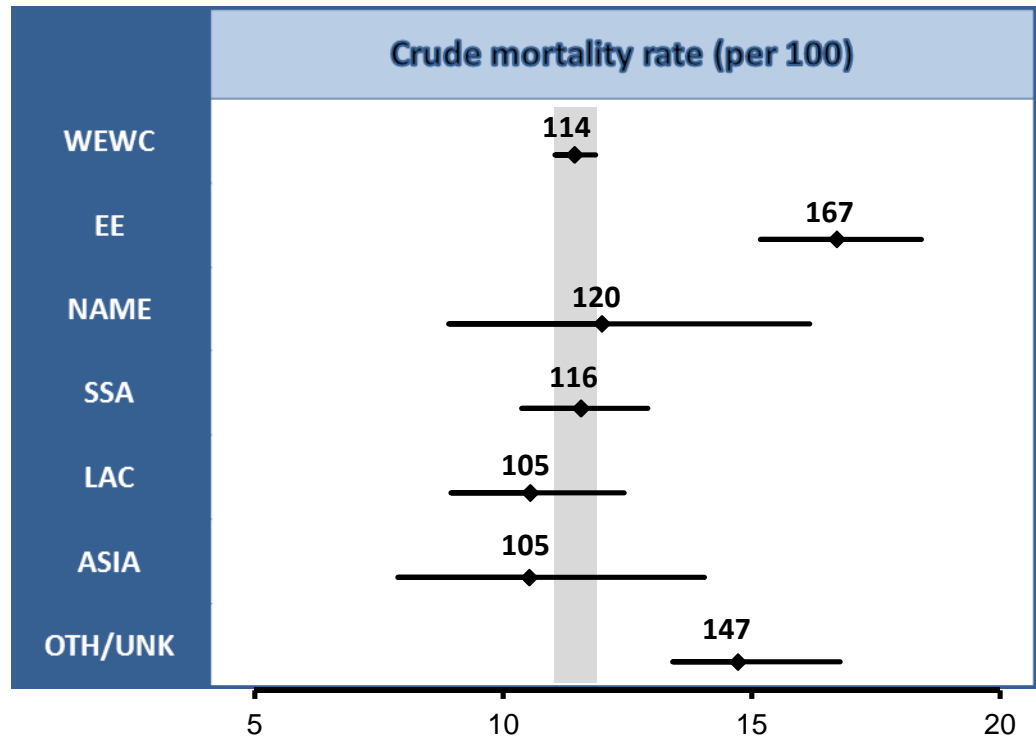
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Crude mortality rates (MEN)



Results: **WOMEN** [n(%) or Me(IQR)]

	WEWC	EE	NAME	SSA	LAC	ASIA	OTH/UNK
Total N	13,9147	1,444	304	11,357	1,958	569	1,826
Age	34.2 (28.5-41.4)	34.1 (28.6-40.4)	36.4 (29.4-44.3)	31.5 (27.0-37.2)	33.9 (27.6-41.7)	31.6 (27.5-37.6)	33.4 (28.4-39.2)
Transmission							
HTX	10,378 (74.6)	960 (66.5)	260 (85.5)	10,163 (89.5)	1,748 (89.3)	494 (86.8)	1,150 (63.0)
IDU	2,191 (15.8)	289 (20.0)	20 (6.6)	54 (0.5)	17 (0.9)	10 (1.8)	405 (22.2)
OTH	1,345 (9.7)	195 (13.5)	24 (7.9)	1,140 (10.0)	193 (9.9)	65 (11.4)	271 (14.8)
History of HCV							
Yes	2,784 (20.0)	67 (4.6)	26 (8.6)	387 (3.4)	66 (3.4)	22 (3.9)	446 (24.4)
No	7,996 (57.5)	136 (9.4)	241 (79.3)	8,273 (72.8)	1,489 (76.1)	358 (62.9)	832 (45.6)
Unknown	3,134 (22.5)	1,241 (85.9)	37 (12.2)	2,697 (23.8)	403 (20.6)	189 (33.2)	548 (30.0)
History of HBV							
Yes	1,607 (11.6)	178 (12.3)	33 (10.9)	2,588 (22.8)	192 (9.8)	146 (25.7)	303 (16.6)
No	9,031 (64.9)	799 (55.3)	237 (78.0)	6,600 (58.1)	1,448 (74.0)	252 (44.3)	763 (41.8)
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	WEWC	EE	NAME	SSA	LAC	ASIA	OTH/UNK
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Transmission							
HTX	10,378 (74.6)	960 (66.5)	260 (85.5)	10,163 (89.5)	1,748 (89.3)	494 (86.8)	1,150 (63.0)
IDU	2,191 (15.8)	289 (20.0)	20 (6.6)	54 (0.5)	17 (0.9)	10 (1.8)	405 (22.2)
OTH	1,345 (9.7)	195 (13.5)	24 (7.9)	1,140 (10.0)	193 (9.9)	65 (11.4)	271 (14.8)
History of HCV							
Yes	2,784 (20.0)	67 (4.6)	26 (8.6)	387 (3.4)	66 (3.4)	22 (3.9)	446 (24.4)
No	7,996 (57.5)	136 (9.4)	241 (79.3)	8,273 (72.8)	1,489 (76.1)	358 (62.9)	832 (45.6)
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Total N	13,9147	1,444	304	11,357	1,958	569	1,826
AIDS at baseline	424 (3.1)	359 (24.9)	7 (2.3)	657 (5.8)	76 (3.9)	58 (10.2)	161 (8.8)
CD4 count (cells/mm³)	400 (228-592)	355 (155.5-542)	380 (200-585)	302 (167-465)	358 (184-539)	290 (115-480)	320 (153-516)
Viral Load (log cop/μl)	4.2 (3.5-4.9)	4.4 (3.7-5.0)	4.3 (3.4-5.0)	4.2 (3.4-4.9)	4.2 (3.6-4.9)	4.5 (3.7-5.0)	4.3 (3.5-5.0)
Start HAART	10,393 (74.7)	1,146 (79.4)	233 (76.6)	8,719 (76.8)	1,437 (73.4)	460 (80.8)	1,316 (72.1)
Lost to follow-up	5,060 (36.4)	441 (30.5)	78 (25.7)	3,474 (30.6)	675 (34.5)	105 (18.5)	839 (46.0)

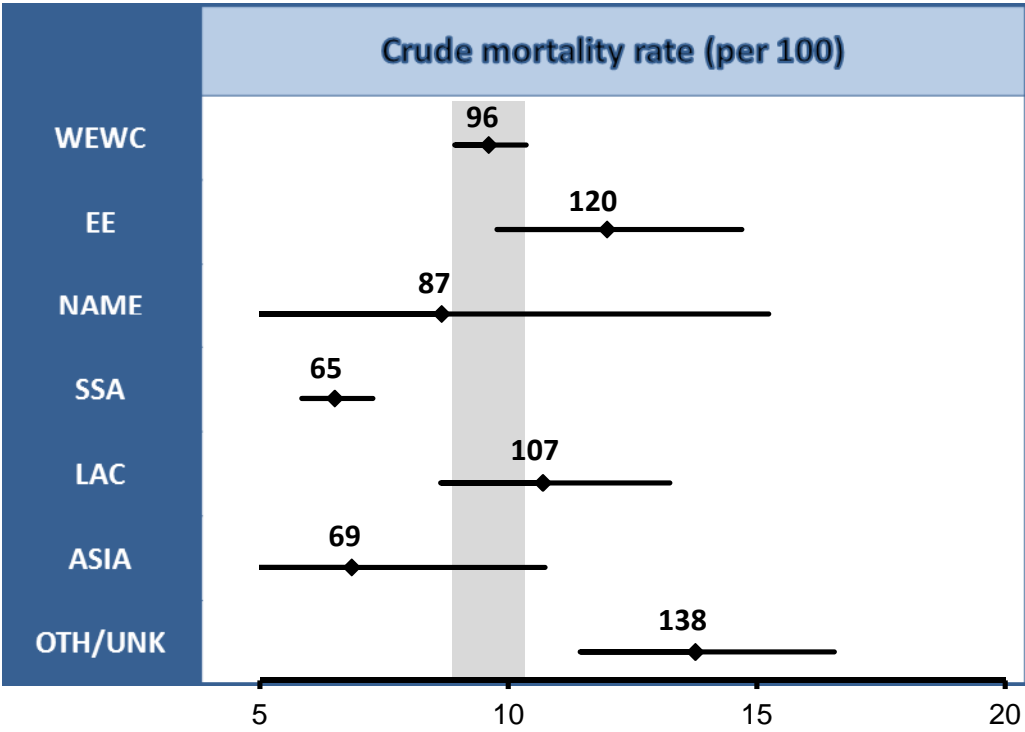
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Crude mortality rates (**WOMEN**)



Conclusions (I)

- The crude mortality rates of HIV-positive migrants in Western Europe vary according to region of origin and sex but most differences do not persist in adjusted analyses
- Male and female migrants from Eastern Europe have higher crude mortality rates than native populations probably explained by higher proportions of IDUs and delayed HIV diagnoses

Conclusions (II)

- HIV-positive migrant women from Sub-Saharan Africa and Asia have lower crude mortality rates than native populations that disappear after accounting for more frequent heterosexual transmission and younger age in these groups
- The higher adjusted mortality of women from Latin-America and The Caribbean needs to be further explored

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Project Team:

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Steering committee:

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- **Contributing cohorts:** Robert Zangerle (AHIVCOS), Giota Touloumi (AMACS), Josiane Warszawski (ANRS CO1 EPF), Laurence Meyer (ANRS CO2 SEROCO), François Dabis (ANRS CO3 AQUITAINE and ANRS CO13 HEPAVIH), Murielle Mary Krause (ANRS CO4 FHDH), Jade Ghosn (ANRS CO6 PRIMO), Catherine Leport (ANRS CO8 COPILOTE), Ferdinand Wit (ATHENA), Peter Reiss (ATHENA), Maria Prins (CASCADE), Heiner Bucher (CASCADE), Caroline Sabin (CHIC), Diana Gibb (CHIPS), Gerd Fätkenheuer (Cologne Bonn), Julia Del Amo (Co-RIS), Niels Obel (Danish HIV Cohort), Claire Thorne (ECS), Amanda Mocroft (EuroSIDA), Ole Kirk (EuroSIDA), Christoph Stephan (Frankfurt), Santiago Pérez-Hoyos (GEMES-Haemo), Osamah Hamouda (German ClinSurv), Barbara Bartmeyer (German ClinSurv), Antoni Noguera-Julian (NENEXP and CORISPE-cat), Andrea Antinori (ICC), Antonella d'Arminio Monforte (ICONA), Norbert Brockmeyer (KOMPNET), José Ramos (Madrid Cohort), Manuel Battegay (SHCS, MoCHIV), Andri Rauch (SHCS), Cristina Mussini (Modena Cohort), Pat Tookey (NSHPC), Jordi Casabona (PISCIS), Jose M. Miró (PISCIS), Antonella Castagna (San Raffaele), Stephane de Wit (St. Pierre Cohort), Tessa Goetghebuer (Belgian Pediatric cohort, St Pierre), Carlo Torti (Italian Master Cohort), Ramon Teira (VACH), Myriam Garrido (VACH).
- **Paediatric cohort representatives:** Ali Judd, Pablo Rojo Conejo
- **European AIDS Treatment Group:** David Haerry.

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Copenhagen RCC cohorts: Maria Campbell, Jesper Grarup (Head), Nina Friis-Møller, Jesper Kjaer, Dorthe Raben

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MINISTERIO DE ECONOMÍA Y COMPETITIVIDAD



Instituto de Salud Carlos III



14th EUROPEAN AIDS CONFERENCE
OCTOBER 16-19, 2013
BRUSSELS, BELGIUM



Thank you!



INMET ANRS COC Mothers & COC Infants in IRC Mothers & BRPS Infants PISCIS
VORWET CASCADE ANRS CO2 SEROCO FANTAS (MADRID) (MADRID) (MADRID)
ANRS CO1/CO10 UK CHIC Athens ISLE Mothers & STLR Infants SWISS HIV Cohort Study
ECC ANRS CO6 PRIMO Co-RIS MACHIV Mothers & MACHIV Infants THE ITALIAN MASTER Cohort
CHIPS ANRS CO4 French Hospital's Database on HIV HIV-MIP Mothers & HIV-MIP Infants
GENE-HAVI ANRS CO3 AQUITAINE EUROSIDA MADRID Cohort HIV Children VACH
MODENA Cohort Study Danish HIV Study ANRS CO8 COPILOTE ICONA St. Pierre
Collaboration of Observational HIV Epidemiological Research Europe
Cooperation - Cooperation HIV Programme (COOP) & Institute of Social Paediatric Epidemiology & Development (ISEP)



BONN	HEPAVIH	AHIVCOS	DHK	SHCS
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