HIV/AIDS: Italian scenario

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EACS European AIDS Clinical Society

Epidemiology

Since 1984 the COA (Centro operativo AIDS) from Ministry of Health and ISS (Istituto Superiore di Sanità) has collected data on received notifications of HIV infections and AIDS. The official document reports data until December 2015.Surveillance on new HIV diagnosis is based on data from persons with a positive HIV test: in 2015 there were 3444 new diagnosis, 5.7 new cases per 100000 italians, this incidence is higher in middle and north of Italy and in the age range 25-29 yo (15.4 new cases per 100000 italians).Apart from the national surveillance form Ministry of health, conveying the delay of notifications, in Italy there is a large observational cohort study of HIV-1-infected subjects: the Italian Cohort of Antiretroviral-Naïve Patients (ICONA) Foundation Cohort.

The ICONA Foundation Cohort is a cohort of HIV-infected patients recruiting HIV-positive patients while still ART-naïve, regardless of the reason. On average, CD4 cell counts, HIV VL and other laboratory parameters are measured, and clinical and therapeutical data are collected every 4-6 months. This cohort was set up in January 1997 and currently includes data on patients enrolled at 40 infectious disease units in Italy. Updated reports are available every year. This cohort is also used to perform observational sub-studies on treatment strategies, comorbidities, long term outomes etc and it appears to be very representative of the epidemiological italian scenario.

The last report (july 2017) showed:15688 patients enrolled, n.480 from january to july 2017, 76% males.
83% of enrolled patients are italian, 17% not italian with an increasing prevalence over the years. Mode of HIV trasmission is mainly by sexual contact (37.5% heterosex,35.7% homo/bisexual),18% by IDU.
Age strata per calendar year of follow up are shown in figure 1 and education levels in figure 2. Reasons of being ART naive at enrollment are shown in figure 3.
Proportion of pts with CD4 <50cell/mm3 or AIDS are shown in figure 4.Coinfections: 25.3% HCV Ab + and 6.2% HbsAg+ (both 2.1%).

Figure 1

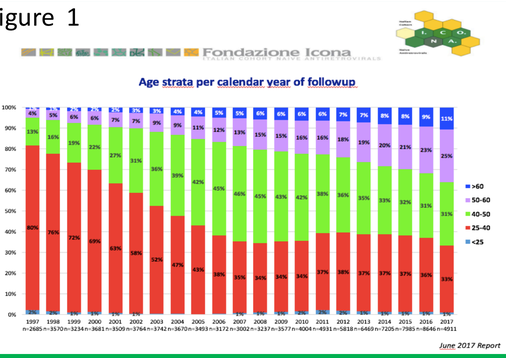


Figure 2

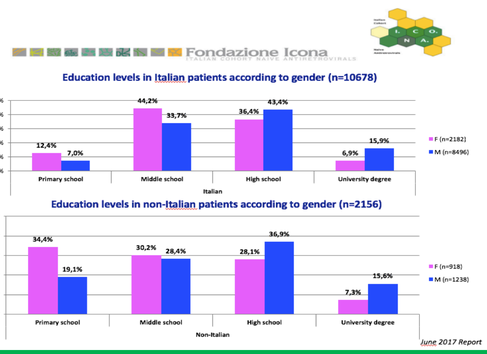


Figure 3

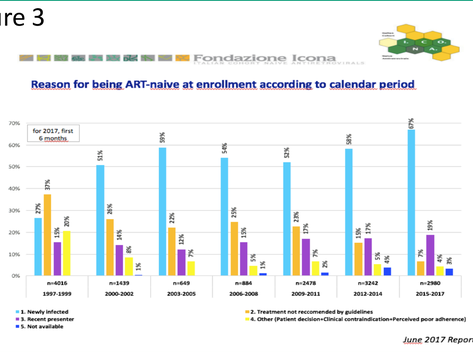
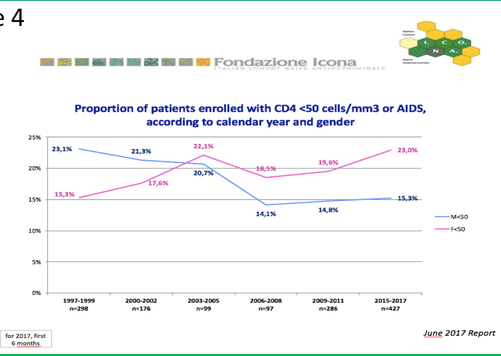


Figure 4



Main issues

The main issues dealing daily with HIV-infected people in Italy can be summarized as:

- Low awareness within the general population and especially the young generations that HIV infection can be acquired by non-protected heterosexual intercourse (45% of infections in 2015 in Italy, ISS data) and not just by needles sharing or non-protected homosexual intercourses (highest incidence of new HIV diagnosis within 25-29 years old people 15,4/100,000 in 2015, ISS data) .
- Little efforts are made by the government/institutions to increase the knowledge of this disease within the population which remains generally perceived as a social stigma. As a consequence many people are often too afraid to test themself even after high risk conducts, seeking medical attention when thay already progressed to AIDS (54% in 2006 and 74% in 2015 of AIDS presenter were unaware of their condition. ISS).
- Many patients (especially female patients who acquired the infection from the partner) prefer to avoid any further relationship due to the fear of being judged by the new partner. Some people even come from different cities due to the fear of being recognized by friends in the infectious disease departement of their own town.
- By the other way within part of the homosexual community HIV infection (and STI in general) are sometimes perceived as an inevitable inconvenient, so no strong measures are taken to prevent them.
- Increased use of cocaine (perceived as safe and funny drug) within "common" people with a consequent rise in the high risk behaviour habits.

Access to cure

The Italian National Health Service (INHS) was founded on the principles of universal coverage, social financing through the use of general taxation and non-discriminatory access to the health care services. The INHS guarantees the right to health at all Italians, without discriminations based on income, gender or other social status factors. It delivers high-quality health care to all residents and citizens of the EU requiring hospital admissions, emergency care and services of general practitioners and pediatricians. Healthcare is provided to all citizens and residents by a mixed public-private system. The public part is the national health service, Sistema sanitario nazionale (SSN), which is organized under the Ministry of Health and is administered on a regional basis.
All legal migrants not from EU must be registered at the INHS in order to access to all the services offered by the national system; the subscription is free for all the migrants who pay the taxes, students, pregnant, underage and permit the release of a health insurance card (TEAM), otherwise it required an annual payment (<400euros/year). a temporary registration code (STP code, Italian acronym meaning "foreigner who is temporarily present") is assigned to illegal migrants, this allowing their identification and giving them the eligibility for accessing to all the urgency and essential cure, in particular related to prophylaxis, diagnosis and cure of infectious diseases.

All the HIV positive patients have free access to medical visits and instrumental/biochemical analysis that are related to HIV disease and its comorbidities. Furthermore, all diagnostic and therapeutic procedures related to HIV infection are provided free of charge to all migrants, regardless of legal status. Nevertheless, migrants persist to have several difficulties in access to care, partly due to poor information about the existing options and to the fear of being reported to the police. Migrants are usually more likely to seek care at the Emergency Department rather than on scheduled visits, which significantly limits the retention in medical care and the implementation of preventive measures. The immigration status deeply influences access to care, thus contributing to increase the spread of HIV/AIDS among this category.
Inmate HIV patients usually receive cure in prisons, after a request of infectious diseases specialist visit, and occasionally at Infectious diseases department. The transfer to the hospital is provided only in case of instrumental/biochemical analysis not available in prison or for hospital admission. This organization creates a discontinuous and fragmentary assistance to the patients, increase the number of missed diagnosis of HIV infection and the number of AIDS presenters.

As demonstrated by the number of new infections, a weak point of our healthcare system is the prevention. Prevention of new infections is demanded mostly to private organizations (eg. managed by people living with HIV, LGBT etc) in cooperation with voluntary medical doctors, nurses and psychologists. Ministry of health is not unaware, actually in under examination a HIV/AIDS national plan. This plan will pay more attention to the prevention of new infections, the diffusion of knowledge about HIV and other sexual transmitted diseases, the major availability of HIV, HCV and HBV tests and the discovery of the hidden aspects of the HIV infection.

Finally, the Italian National Health provides citizens with all medications for the treatment of serious and chronic diseases, including the latest generation of innovative medicines. The 76% of the national pharmaceutical expenditure is paid by the INHS and only medicinal products for the treatment of minor disorders are charged to citizens. HAART can be prescribed only by a infectious diseases specialist and can be retired only in hospital pharmacy prior of showing specialist prescription (File F). These drugs are completely free for all the patients, resident or not, and they don't need any copayment.
The universal and free access to cure and drugs guaranteed in Italy to all HIV patients is undoubtedly a strong point of INHS, proved by a ratio of 96% of patients at 12 months from staring HAART reaching VL<80copies/mL (data from ICONA cohort, June 2016). On the other hand an effort to increase the prevention, diagnosis and retention in care of HIV/AIDS patients is needed, especially for the most fragile categories (e.g. illegal migrants, inmate, refugees).

Special on Pediatric HIV

As COA, the Italian Registry for Pediatric HIV has collected epidemiologic data since 1985. In 2013, 10682 children (<13 yrs) were living with HIV in Italy, 10377 of which due to vertical transmission.
Between 1985-2013, 798 (651 before 1994, 18 after 2006) cases of AIDS were notified, 473 of which resulted in death of the child. In 2014, 15 new cases of HIV infection in children aged 0-14yrs were notified. Between 2010 and 2015, 61 new cases were notified in adolescents between 15-17 yrs old, mostly women (66,7%). In this age range transmission mode was mostly represented by heterosexual (all women) (58,3%) and MSM (25,0%), 1 IDU and 1 late diagnosed vertical transmission.
Even though effective strategies to prevent mother-to-child-transmission (MTCT) exist, there is an increasing number of vertical transmissions. This phenomenon may be explained with the fact than only few immigrant women are able to access to HIV testing and ARV therapy during pregnancy (only 50% of infected women are in treatment), they rarely have a good virologic control at delivery and few have access to elective caesarian section when needed.

New HIV infection in Italian Pediatric Population and Learning Lessons for Health Practitioners

Baby Lara: Age 7 m

- Daughter of Italian Parents, Lara did not suffer from any pathological conditions during the first months of her life.
- At 7 month of age she was transferred to our hospital with suspect of Hemophagocytic lymphohistiocytosis.
- She presented with: Maculopapular rash, persistent fever, hepatosplenomegaly, Neurocognitive delay.
WB: 6750/mmc, Neu: 1020/mmc, L 4810/mmc, Hb:8.1mg/dL, LDH: 1097, ALT 83, AST 293.
BM Aspiration and Biopsy: normal cellularity
- Negative hemocultures, CMV VL on whole blood: 2 618 700 cp/mL
- Positive serology for HIV Ab and Ag p24. Parents both positive.
- **HIV VL: 10 000 000 cp/mL, CD4+ 11,4% (450 cells/mmc)**
- Stop Breastfeeding. ARV: AZT+3TC+LPV/r, later on due to persistent viremia + RAL, plus ganciclovir for CMV
- Lara is now currently on ARV and growing accordingly to normal neurocognitive mile stones.

Vertical transmission is preventable!
Importance of HIV screening during pregnancy

Kamil's Story: Age 11 yrs

- Son of multicultural couple (Italian father and Kenyan mother), Kamil, born in Kenya, has travelled until age 7, negative anamnesis.
- At 11 years old he comes to the ER for persistent periumbilical pain, with nausea, apyretic.
Physical Exam: Bilateral laterocervical lymphadenitis, bilateral basal rale. Abdominal pain in right iliac region during deep palpation.
- Abdominal Echography shows presence of many mesenteric lymph nodes; Chest X-Ray: military-interstitial lung pattern.
- IgG: 2 695 mg/dL, **CD+: 6,9% (260 cells/mmc)**
- **HIV VL: 339 000 cp/mL**
- GRT: Resistant strain to NRTI's. ARV: RAL+DRV+RTV+ETR
- . Today he is well, currently on ARV with undetectable viremia

Late diagnosis in children coming from endemic country
Higher prevalence of resistant HIV strain

Chiara's Story: Age 17 yrs

- In and out of hospitals since age 11 for Left Temporal Focal Epilepsy, Chiara sure has met many doctors on her path.
- At age 17 she's admitted in ER with persistent emisomic clones which required sedation and intubation.
- Initial negative anamnesis, WB: 16 620, Neu: 15 510, Lymph: 639.
Echocardiogram showed Left Ventricular Dysfunction.
- Furter investigation: **HIV VL: 59 386 cp/mL**, **CD4+**: 16,2% (**220 cells/mmc**).
Sexual History: unprotected sexual intercourse
- Management: TDF/FTC+DRV+RTV then + RAL
- Today she is currently on ARV, Undetectable Viremia, continues Neurological follow up with no further complications.

Adolescents and their first intercourse age
Doctors should always take sexual history (Pediatricians too!)

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