

The use of pre-exposure prophylaxis (PrEP) in the control of HIV infection and other sexually transmitted diseases (STDs). Descriptive-observational analysis in an Italian polyclinic

Cicetti Davide^{1,2}, Vitale Salvatore^{1,2}, Appolloni Lucia^{1,2}, Pensalfine Giulia^{1,2}, Traficante Miriam^{1,2}, Caprara Raffaella^{1,2}, Poma Agnese³, Baldasso Francesco³, Cantini Michele³, Calza Leonardo³, Colangeli Vincenzo³, Stancari Alessandra¹.

Background:

The use of the pre-established combination, emtricitabine/tenofovir disoproxil fumarate, for prophylaxis represents a new and effective tool for the prevention and containment of HIV infection.

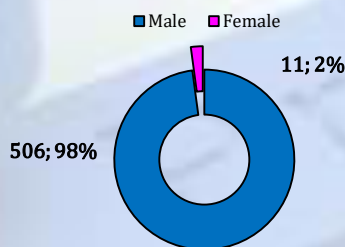
Materials and Methods:

The list of analyzed patients was obtained by using the GACC company management system, selecting as mode of operation the dispensing of medicines in the field of HIV pre-exposure prophylaxis, in the period from August 2023 to February 2024. Through the E4Cure platform, it was possible to obtain information on these patients related to: the following points date of initiation of prophylaxis, schedule of intake (on demand or daily), possible acquisition of HIV-1 infection and other major STDs such as HCV (hepatitis C virus), HBV (hepatitis B virus), syphilis, Chlamydia and gonococcus, as well as their serologic and possible vaccination status. Finally, information on HPV (human papillomavirus) vaccination status was recorded. Patients followed at the BLQ clinic (n.107) were excluded from the analysis as no further data on age and gender were available.

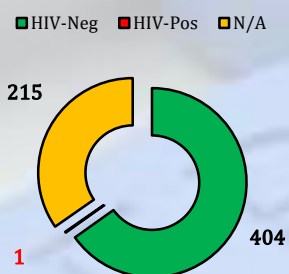
Sexually Transmitted Diseases Incidence

	No. patients with at least 1 episode	% patients with at least 1 episode	MST incidence	No. atients with at least 1 episode of all 3 STDs	No. patients with ≥2 episodes of all 3 STDs
Syphilis	53	13,4	0,12	12	4
Gonorrhoea	118	29,5	0,23		
Chlamydia	100	25,1	0,20		

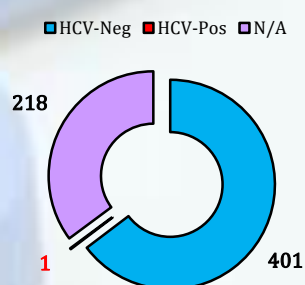
Gender distribution



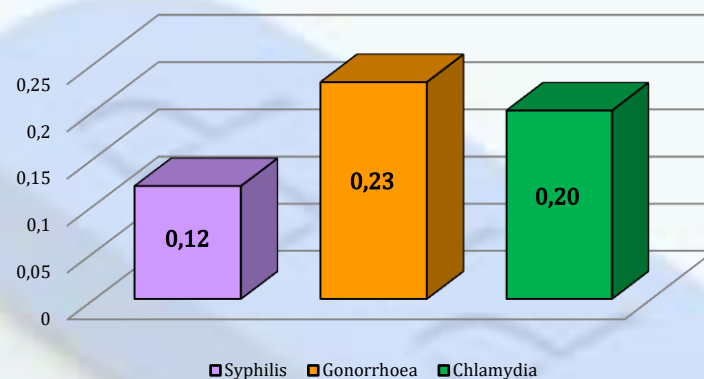
HIV serological status



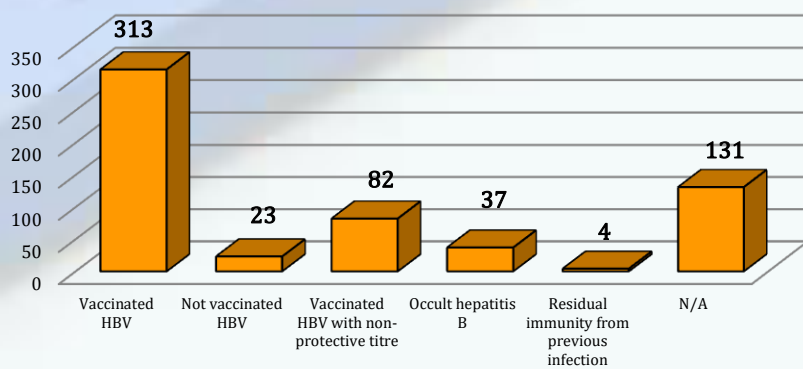
HCV serological status



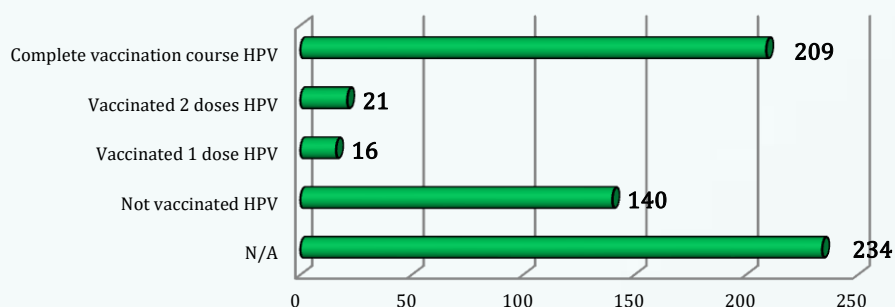
Incidence STDs



Immuno-serological status HBV



Immuno-serological status HPV



Conclusions:

From our analysis, it appears that pre-exposure antiretroviral chemoprophylaxis (PrEP) is indeed an effective tool to prevent the acquisition of HIV-1 infection, as of all 357 patients analyzed through the consultation of the different medical reports, **only 1 patient acquired the infection during the study period, with a treatment success rate of 99.8%**. However, 49.3% (n.176) of patients were diagnosed with at least one STD during the period in which they received prophylactic treatment. Therefore, although PrEP is an effective means of reducing the spread of HIV-1 infections, it should be borne in mind that this treatment does not eliminate the possibility of contraction all other sexually transmitted diseases. It is therefore clear from the results of this analysis, that correct counselling during the prescription and delivery of the therapy by all healthcare personnel, correct and conscious adoption of the therapy together with the use of other barriers tools, such as the use of condom, is necessary, so that the risk of acquiring other infections is minimized, which in any case expose the patient to the subsequent use of chemotherapy to eliminate the acquired infection, with all that this entails, both in terms of possibility of side effects related to the use of the drug and in terms of development of resistant microorganisms.

Affiliations:

1. IRCCS University Hospital Company - S.Orsola-Malpighi Polyclinic - Clinical Pharmacy, Research and Development, Bologna
2. IRCCS University Hospital Company - S.Orsola-Malpighi Polyclinic - Department of Infectious and Tropical Disease, Bologna
3. IRCCS Azienda Ospedaliero-Universitaria Policlinico S.Orsola - Malpighi - Dipartimento Interaziendale Gestione Integrata Rischio Infettivo, Bologna