Healthcare resources use in patients with Human Virus Infection (HIV). Real-world evidence from Italian administrative databases.

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AIM: The aim of the study was to evaluate healthcare resource use and related costs for the management of HIV patients with and without comorbidities, and highlight any relevant difference in comorbidities when compared to the general population.

METHODS: An observational retrospective cohort analysis, based on administrative and laboratory databases from 7 Italian Local Health Units (LHUs) was performed. Patients diagnosed [through specific treatment (ART (ATC code: J05A) or laboratory test results] with HIV between January 1st, 2014 and December 31st, 2014 were included. The date of diagnosis of HIV was used as the Index Date (ID). Patients enrolled were followed-up for all time available from the ID (follow-up period) and their clinical characteristics were investigated from one year prior to the ID (characterization period). Comorbidities were measured by using the Charlson Comorbidity Index (CCI). 1 The CCI is an indicator that uses the ICD-9-CM codes of hospitalizations or ATC code on drugs prescribed as a proxy of pathology. The prescription of any non HIV-related drugs was used as informative of the presence of comorbidity; findings were compared with those of a sample of the general population with the same age and sex distribution (OsMed 2015).2

Healthcare resource consumption was evaluated during the follow-up period. The cost analysis was conducted from the perspective of the Italian National Health Service (NHS). A generalized linear regression model was performed to identify the associations between total health care costs during the follow-up period and age and CCI. Ethic Committees of each participating LHU approved the study.

RESULTS: In this analysis a total of 837 HIV-positive patients without comorbidities (cohort: “HIV only”) and 377 HIV-positive patients with comorbidities (patients with at least one comorbidity, cohort: “HIV and comorbidities”) were included. The average age of patients in the HIV and comorbidities cohort was higher than that of the HIV only cohort (51.9 vs 48.1, $p<0.001$) with the number of comorbidities reported in this group also increasing with age. The incidence of comorbidities was lower in females. The most common comorbidities amongst patients enrolled included rheumatologic diseases (18.7%) followed by chronic kidney disease [defined as GFR<60mL/min, from laboratory outcomes database (14%)], chronic pulmonary disease (9.2%) and diabetes without complications (4.3%). The frequency of use of drugs for the treatment of comorbidities was higher in the HIV-infected population than in Italian general population2 [anti-hypertensives (+18%), lipid-lowering agents (+80%), anti-diabetic (+156%), drugs for COPD (+122%), drugs for the management of osteoporosis (+17%), anti-depressants (134%) and antiacid or antisecretory agents (+52%)]; For most of the agents, the difference is greater in the younger population.

Annual healthcare cost of managing HIV patients with comorbidities is significantly higher than that of managing patients without comorbidities (€10,615 vs € 8,665; p<0.001). Healthcare costs of non-HIV related increase steadily with the number of comorbidities, ranging from €2,266 in patients with one comorbidity to €4,136 with two comorbidities, to over €5,794 in patients with three or more comorbidities. The generalized regression model showed that a statistically significant increase of overall cost was caused by: male gender (+1,028 €, p=0.006), naive patients (+1,042 €, p=0.009), the presence of one comorbidity (+ 1,188 €, p=0.009) and the presence of two and three comorbidities [+4,149 € (p<0.000) and +5,892 € (p<0.014), respectively].

CONCLUSIONS: Study results show that a proportion of HIV+ patients have at least one comorbidity. Comorbidities increase with age, and the cost of managing HIV patients with comorbidities is sensibly higher than that of managing HIV patients without comorbidities.

The findings of this study, in a real world setting, highlight the need to manage HIV patients – in addition to suppressing viral load – through a multidisciplinary approach, which takes comorbidities into account. Our data confirm that care and treatment services need to address the specific needs of HIV patients living with comorbidities.

REFERENCES:

1. Charlson, M. E., Pompei, P., Ales, K. L. & MacKenzie, C. R. A new method of classifying prognostic comorbidity in longitudinal studies: development and validation. J Chronic Dis 40, 373–83 (1987).

2. Agenzia Italiana del Farmaco (AIFA). L'uso dei farmaci in Italia—rapporto OsMed 2015. Available from: http://www.agenziafarmaco.gov.it/sites/default/files/Rapporto_OsMed2015.pdf.