

Evaluation of Medicine/Immunodeficiency consultation costs in 2002

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Abstract

The use of economic resources in Health Care is a constant concern of governments, hospital administrators and health professionals, and the area of HIV care and follow-up is currently considered one of the areas with the highest consumption of resources.

By studying outpatients of the Medicine/Immunodeficiency Consultation of the Hospital de Santo António dos Capuchos (Lisbon) over a one year period (2002), we actually assessed its operating costs.

Material and Methods: The study included outpatients of the Medicine/Immunodeficiency Consultation of the Hospital de Santo António dos Capuchos, who were observed at least twice during 2002.

The calculation of consultation costs, blood tests and other exams was based on the values defined in the Homogenous Diagnostic Groups (GDHs).

The costs of antiretroviral therapy were calculated according to the values provided by the Hospital Pharmacy, assuming a monthly supply of same.

Results: 107 patients were observed with a total of 498 consultations (€11.424). Viral load was assessed 244 times (€24.321) and lymphocyte subpopulation studies 245 times (€15.445). Other blood tests totaled €36.586. Eighty-five of the 107 patients were on antiretroviral therapy, with an average expense per patient of €7.122.

Eighteen patients had to be admitted in the Hospital, for a total of 219 days (€41.699).

Conclusion: The average annual cost per patient was €6.408.

Key words: HIV infection, Hospital outpatient attendance, medical expenditure.

Introduction

The use of economic resources in the Health sector has been a constant concern for government officers, hospital managers and Health Professionals.

Follow-up of patients with HIV/AIDS is indicated as an area of particular importance in terms of hospital costs in Health Care.

We believe that an accurate knowledge of the costs of medical consultations, in their various aspects, can guide us as to how to optimize/rationalize costs.

Objective

To evaluate the costs of the Medical/ Immunodeficiency Consultation at the Hospital Santo Antonio dos Capuchos in the year 2002.

Material

Outpatients who visited the Medical/ Immunodeficiency sector of the Hospital Santo Antonio dos Capuchos at least twice during 2002.

107 subjects were evaluated, the majority male (69 patients /64%), all of whom were infected by HIV type 1 (102 patients/95%). The average age was 39.15 years.

47 patients (44%) had a history of intravenous drug use, with sharing of needles. 45 patients (42%) reported having had unprotected sexual relations with multiple partners (Fig 1).

The most common stages of infection, according to the CDC/93 classification, were A1 (20%); A2 (23%) and C3 (31%).

Methods

The costs of medical consultations, hospitalization periods, analytical evaluations and other supplementary diagnostic tests were calculated based on the values defined in the Homogenous Diagnosis Groups (GDHs), stipulated in Directive 189/2001 of March 9th.

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The cost of antiretroviral therapy was calculated on a patient-by-patient basis, according to the respective therapy programs, using the values provided to us by the Hospital Pharmacy and considering a monthly supply of the drugs. Changes to the therapy program were taken into consideration whenever these were noted, requiring, in some cases, the calculation of costs on a daily basis.

Results

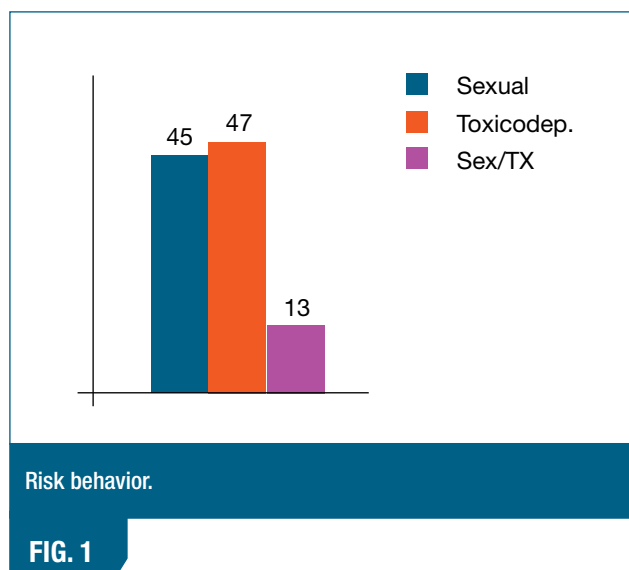
During the year 2002, 107 patients were evaluated and 498 medical consultations were performed (€ 11,424). The average number of observations per patient was 4.6 (average cost per patient = € 106.7). This number of consultations per patient reflects the quarterly evaluation to which virtually all the patients were submitted, as well as patients who were initiating their follow-up in this consultation during the year 2002, given that more frequent evaluations are required in the initial months.

244 evaluations of HIV-1 viral load (2.4 evaluations/patient) were requested, with a total cost of €24,341.44 (average cost per patient €238.64), and 245 studies of lymphocytic subpopulations, with an average of 2.28 evaluations per patient and a total cost of €15,447.25 (average cost per patient €114.36). Also, eleven antiretroviral resistance tests were requested (€4,938.12). The total cost of the remaining analyses was €36,586. This includes the analyses requested in the initial consultations, in which a more detailed analytical evaluation is carried out, including a complete hemogram, biochemical study of the liver and kidney, complete ionogram, serum analysis for the Hepatitis B and C viruses, Cytomegalic and Epstein-Barr viruses, and serum analysis for Syphilis and Toxoplasmosis, among others.

The overall cost of the supplementary diagnostic tests requested was €81,313.57 (Table I).

Hospitalization of eighteen patients was necessary, totaling 219 days, with a total cost of €41,699.

Twenty-two of the 107



patients were not receiving any antiretroviral medication; in sixteen of these, it was because they did not meet the immunological and/or virological criteria stipulated in the current guidelines.

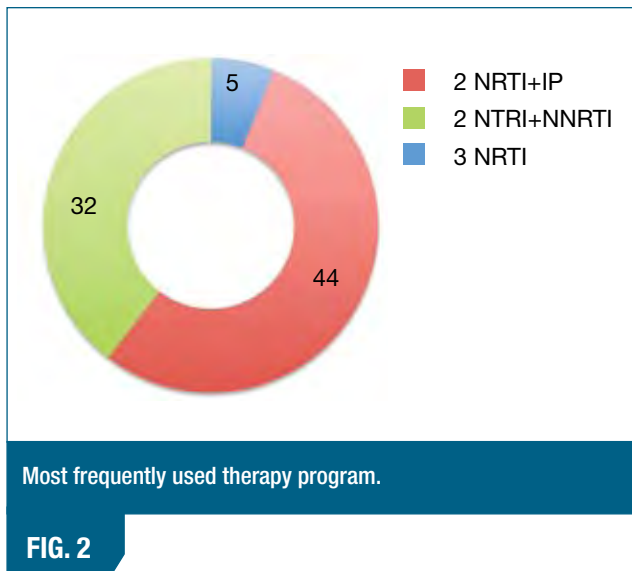
85 patients were receiving antiretroviral therapy consisting of three or four drugs. The most frequently used therapy programs were those involving the association of two nucleoside analogs (NRTI) with a protease inhibitor (PI) or a non-nucleoside (NNRTI). (Fig. 2).

The average cost of therapy per patient was €7,122. The annual cost of the various therapy programs implemented ranged from €4,932.66 to €10,701.18.

TABLE I
Supplementary diagnostic tests*

Test	Unit cost (€)	N.º of tests requested	Average nº per patient	Total cost (€)	Average cost per patient
Analysis 1 st observation	533,87	24	—	12.812,88	—
HIV-1 viral load	99,76	244	2,39	24.341,44	238,64
Study on lymph. Subpop.	63,05	245	2,28	15.447,25	144,36
Routine analysis	89,04	267	2,49	23.777,68	222,22
Resistance test	448,92	11	—	4.938,12	—
Imaging tests	—	4	—	415,28	—

Directive no. 189/2001, March 9th



The total cost of the antiretroviral therapy in these patients, in 2002, was €605,410.86.

49 (57%) of the patients receiving the therapy showed an undetectable viral load, and nine (10%) were experiencing therapy failure, therefore an antiretroviral resistance test was performed. The remaining 27 patients were still in the early stages, having just started the therapy, or after changing the therapy program, and therefore had a detectable viral load.

Eighteen patients had to be admitted to hospital during the year 2002, totaling 219 days, with a calculated cost of €41,699.

Conclusion

The average cost per patient in the Medical/ Immunodeficiency Consultation of the Hospital Santo Antonio dos Capuchos, in year 2002, was €6,408.84.

Final Comments

As our practice in this consultation is dictated by the "standards of care"^{1,2} in the area of HIV/AIDS, according to the international recommendations regarding the follow-up of patients, frequency of consultations, analytical evaluation and antiretroviral therapy, we believe that this is the real annual cost per patient, despite the obvious time lag which, however, does not appear to be significant:

In a recent paper,³ the only one of its kind published in this country to date, which calculates the costs of follow-up of patients infected with HIV/AIDS in terms of average cost per patient for the year 2004, the

cost of supplementary diagnostic exams, in particular, the cost of determining the HIV-1 viral load, study of lymphocytic subpopulations, and antiretroviral resistance tests, calculated based on the DR 1st series B-5 of February 2003, showed values that coincided with those of Directive 189/2001 of March 9th, which we used.

In other words, despite the periodical revision of the unit cost of supplementary diagnosis exams, particularly the cost of determining the HIV-1 viral load, study of the lymphocytic subpopulations and antiretroviral resistance tests - the tests with greater weight in terms of cost per patient followed up - the difference is such that it does not cause the average cost per patient to vary significantly over the years, in terms of supplementary diagnostic tests.

In relation to the antiretroviral therapy, new and more costly therapy programs have been introduced in the daily clinical practice, and that is the area in which this study is most out-of-date. However, in the paper cited above, the average cost per patient receiving antiretroviral therapy in year 2004 was €6,619, which is close to the figure calculated in this study for the year 2002 (€7,122).

It should be noted that the costs of personnel, materials, use of the Emergency Unit or other specialty consultations were not included.

Despite exhaustive bibliographic research, we have not found any other papers on this subject, whether through searches on this area nor on other specialty areas, therefore it remain to be compared, particularly with Oncology or Diabetology, which are also indicated as major users of financial hospital resources.

We also believe it is useful to create tools, such as information technology tools, that will enable the annual evaluation of consultation costs, providing a more accurate allocation of financial resources for consultations. ■

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