Evaluation of Patients Adherence to HIV Medication Based on Pharmacy Records

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Introduction: Adherence is the extent to which a person’s behavior is consistent with the prescribed care recommendations[1]. Adherence to a certain therapeutic regimen will determine an illness’ clinical outcome, indeed, treatment strategies must be maintained to be sustainable[1]. How can we quantitatively measure adherence? Some consider that good adherence patients are those who carry out 90% or more of the prescribed behavior[2], whereas others believe that an adherence of 85% is the required standard[2]. Actually, adherence is a multifactorial variable depending upon determinants such as population features and the complexity of the drug regimen[2]. Some researches suggest that adherence parameters are usually considered in order to know the percentage of patients who take medicines like in the prescribed way[2]. The fact that complex and expensive antiretroviral therapies are extremely important is a matter of importance to acknowledge its efficacy, which is highly correlated with adherence, limiting the amount of such treatments should be a priority in any clinical setting where HIV patients are involved[2]. Various methods to measure adherence have been used such as patient report adherence, pill count and electronic monitoring of adherence, each one of these methods has its own advantages and disadvantages. How can we analyze their results in a way that will help us in implementing the best way to comply with the drug regimen and maybe predict patient factors that need to be improved? This latter method allows the identification of those individuals who will not necessarily have a successful treatment due to lack of medication acquisition[1][2][3].

Objective: Assessment of HIV patient adherence to antiretroviral therapy based on pharmacy records.

Methods: This is a six-month longitudinal prospective descriptive study running in January 2004. Our sample population consisted of HIV patients undergoing antiretroviral therapy, except pregnant women and HIV patients while in haemodialysis, who received medications from the Pharmacy Department of Hospital Fonseca during the study’s first five years. Hospital Fonseca is a Public-General Hospital within the National Health System Hospital Network. This health unit serves populations of about 300,000 individuals and has approximately 470 inpatient beds. After an initial pilot project to test the reliability and validity of the variables, the authors collected data from pharmaceutical records for each patient. These data included demographic variables, age, sex and gender, therapeutic regimen features and compliance features (days of pharmacy dispensation visits and number of pills missed in each visit).

Results and Discussion: In the beginning of 2004 we had roughly 700 patients who carried out their HIV therapies. During the registration period we obtained a sample population of 522 individuals including 9 patients who stated that their treatment in the study.

1. Demographic Variables

As we can observe in our population, the number of Caucasian individuals is higher (n=536, 64.9%) than the number of non-Caucasian (n=186, 22.5%) (Table 1). Equally interesting is the fact that 71.9% (n=372) of our patients are older than 40 years. From these data, we can observe a trend toward a greater demand for antiretroviral therapy.

2. Therapeutic Regimens

The most frequent therapeutic regimens are those which included 2 NRTIs (Nucleoside Reverse Transcriptase Inhibitors) + 1 NNRTI (Non-Nucleoside Reverse Transcriptase Inhibitors) (51.3%), n=266) and 2 NRTIs + 1 PI (Protease Inhibitors) (23.9%, n=152) (Table 2). Some individuals who were excluded from this table may be those who were not deaths reported for the period of our study.

3. CMA Index

From the data of the CMA index, we can see that 9.9% (n=52) of the patients had a CMA index that was above the recommended value (Table 3). These results are not what we expected according to the previous pilot study results. However, CMA index can be a very useful tool from pharmacists, which essentially allow us to speculate about the adherence to HIV therapy, and that CMA ≥ 1 would mean supposedly one hundred percent adherence, so we can assume that our sample population is only 24.5% absolutely adherent to the therapeutic regimen.

Data Analysis seems to indicate that there are more male individuals (35.5% of the sample population) than female individuals (24.5% of the sample population) have a CMA > 0.99 when compared to the female individuals (35.5% of the sample population) (Table 4). There is no difference between male and female patients, but we can observe that female patients have a greater number of pills per day distribution (Table 3).

Conclusion: Whether we consider antiretroviral therapeutic regimens or demographic features we are not able to conclude anything regarding their relationship towards adherence. The same is applied to the individuals that started their HIV therapy in the period of recruitment of our sample population; we are in absolutely no condition of saying that those are more or less adherent.

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References: