



The Quality of Life of HIV Patients Before and After Initiation of Antiretroviral Treatment: A Study in a Department of Infectious Diseases in Western Greece

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Abstract

We studied the health-related quality of life of patients with HIV. It was given questionnaires (SF-36, MOS-HIV) and patients answered questions related to factors such as: physical health, physical role, social role, emotion, energy - vitality, mental health and general health. Completion of the questionnaires took place during regular patient visits in department of Infectious Diseases of the University Hospital of Patras. In that study took part a total of 58 patients who were receiving antiretroviral treatment. Exclusion criteria were newly diagnosed with HIV infection and the hospitalization for any reason. Both from the SF-36 questionnaire and the MOS-HIV, was found that both physical and mental health of patients with acquired immunodeficiency is not affected as much as one would expect due to the simplified but still multiple medicines taken by patients with HIV, as well as the average values for the physical and mental health is quite high. This study could be extended to more HIV centers in Greece and carried thereby general conclusions which will likely contribute to a better routine clinical practice and to improve, and by extension reduce the side effects of antiretroviral drugs.

Keywords

HAART; Antiretroviral drugs; Infectious diseases; HIV

Introduction

HIV infection is a global problem, having affected about 33.4 million people worldwide, with sub-Saharan Africa accounting for more than half of it, still posing a public health hazard [1,2]. Since 1981, when the first cases of HIV infection have been recorded, it has become a global epidemic with significant health, social and economic repercussions, especially in specific geographical areas such as Africa and South-East Asia [3]. Over the past decade, Greece has despite the implementation of intensive prevention and treatment measures and the apparent stabilization of new recorded cases. However, the annual report of the Center for the Control and Prevention of Special Infections announces the significant increase in new cases [3]. In particular, during the period of 2000-2010, the number of reported

incidents per year in the general population ranged from 397-653 incidents. For the year 2011, 954 new incidents were reported throughout the year, of which 771 were males and 121 were females [3], according to the Center for Disease Control and Prevention. In daily medical practice, most physicians are interested in the effects of disease on the lifestyle and psychological state of the individual without, however, attempting a standardized measurement. The quality of life assessment applies to patients with chronic conditions or to assessing the health needs of a particular population. Success and utility depend on careful formulation of goals and choice of tools. A combination of tools is commonly used to assess the two dimensions: subjective and objective [4]. Quality of life in recent decades has attracted the interest of the medical community and other health specialists [5]. During the last decade, a strong interest has emerged between political, administrative and social sciences in research on issues of quality of life and the development of methodologies aimed at measuring it [5]. This study examined the quality of life of HIV infected patients monitored at the outpatient clinic of

and Ethics Committee, between November 2014 and April 2015. The selection of patients was random and they completed the questionnaire on their regular visit to the regular outpatient clinics of the University Hospital of Patras. Patients were informed by the physician of the outpatient clinic about the questionnaire content and purpose of conducting the present study. Assuming patients were asked for consent and that all participants included in the analysis gave their consent. Patients were also informed that some data from their medical records would be derived from the study. Exclusion criteria from the study were: age less than 18 years, recent diagnosis of HIV infection (<3 months), hospitalization for any cause [6].

Questionnaires for these participants (MOS-HIV) and for the general population (SF-36) were used. The questionnaires were anonymous and each participant took about 5-10 minutes to complete each of them. The translation procedure was done as described by Mapi Research trust protocol and includes the following steps:

- Translation of questionnaires by two independent translators from English into Greek
- Studying and integrating the two translations and controlling the performance of medical-biological terms
- Translation of the Greek translation from Stage 2 to English by a third translator
- Check the performance of the questionnaire with the original.

A short six-question questionnaire called the Simplified Medication Adherence Questionnaire (SMAQ) was used to check compliance with antiretroviral therapy, which included the following questions:

1. Have you ever forgotten to take your medications?
2. Are you careless at times about taking your medicines?
3. If you feel bad at some moments, stop taking your medication?
4. If you think about the last week, how often have you not taken your medications?

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5. Did not you take any of your medications last weekend?

6. In the last 3 months, how many times did you take your medications?

The SMAQ is considered positive when a patient who does not comply with the treatment is found positive in questions 1-3, or more than 2 doses in the last week or when doses over 2 days have been missed in the last 3 months. For each consenting patient, we collected data from his or her medical file on: age, level of education, stage of HIV infection based on their CD4 count, the mode of transmission of the virus, whether they are taking or not taking antiretroviral therapy.

Editorial and Analysis of Data

Data from patients' medical records as well as the results from the questionnaires were recorded in a database and statistically processed by a SPSS. The statistical analysis was preceded by checking the normal or non-distribution of parameters.

Results

Demographic characteristics of sample patients

The study enrolled a total of 57 patients (39 males and 18 females) from 120 patients monitored at the department of infectious diseases of the University hospital of Patras. The mean age of these patients was 43 ± 10 years. Patients in the sample were infected primarily by homosexual sexual intercourse (63.1%). There were several heterosexual transmissions (22.8%), while fewer cases (14.1%) were transmissions done in any other way (blood transfusion, vertical transmission from mother to infant). Only one patient out of 57 who completed the questionnaire was using narcotic drugs. In terms of level of education, 15.8% were graduates of upper school and 84.2% were high school and lyceum graduates (Table 1).

Clinical characteristics of the patients in the sample

The average time for HIV diagnosis was over 5 years in 59.6% of patients. That is, over half of the patients in the study suffered from

the disease for many years. Out of 57 patients 61.4% were suffering with Stage A, 28% were suffering with Stage B and 10.6% were suffering with Stage C. Out of 57 patients 2 were co-infected with hepatitis (1 with hepatitis B and one with hepatitis C). Antiretroviral treatment had been taken by 87.7% patients in sample at the time of completing the questionnaire. The mean duration of antiretroviral treatment was over 5 years in 59.6% of patients. Among the patients who participated in the study, the viral load was undetectable at the time of completing the questionnaire. Of the 57 patients 38 received antiretroviral treatment and responded to the SMAQ questionnaire (Table 2).

Results of the health-related quality of life with the SF - 36 Questionnaire

With regard to physical health and as studied on the basis of the SF-36 questionnaire: 80.8% of the patients responded that they did not account for the time spent on their health. The percentage of patients who do not feel inferior (56.6%) is also high and 71.2% said they had no difficulty in completing their work. This is similar in terms of mental health. 73.2% replied that they did not account for the time they spent on their health while only 33.9% said they considered themselves inferior and 32.7% spoke of disturbance. Physical pain was studied separately: about half of the patients (40.4%) replied that they did not feel any pain during the completion of the questionnaire and therefore had no effect on the job. In contrast to physical pain, most reported that their physical and mental problems affected their social behavior. Emotions that prevail for quite some time are gloom (35.4%) than respondents answered. On the other hand, most people say they are full of vitality and energy (23.5% and 36% respectively) for a long time, which is unexpected as this class of patients takes antiretroviral medicines with serious side effects such as nausea, vomiting, nightmares, external appearance.

As can be seen from the relevant replies, both the most intense and the moderate but also the lightest activities (e.g. bowling) are not affected at all in patients with acquired immunodeficiency [7] and

Table 1: Demographic and clinical characteristics of the patients who participated in the study.

| Patients Characteristics | |
|--|-------------------------|
| Sex Male / Female | 39/18 (68.4% / 31.6%) |
| Middle Age of Patients | 43 ± 10 years |
| Method of Transmission Homosexual / heterosexual / other (%) | (63.1% / 22.3% / 14.2%) |
| Education Level High-school / upper-upper | 84.2% / 15.8 |
| Time of Introduction > 5 years / <5 years | 34/23 (59.65% / 40.35%) |
| Antierological Education Yes /No | 50/7 |
| Duration of Antiretroviral Treatment > 5 years / <5 years | 34/23 (59.6% / 40.4%) |

Table 2: SMAQ questionnaire responses from HIV study subjects receiving antiretroviral therapy.

| SMAQ, Questionnaire | Total Patients (38) | | |
|---|---------------------|----|--------|
| | Answer | N | % |
| 1.You wanted to take your medications | No | 21 | 55.30% |
| 2. Are you careless at times about taking your medicines? | No | 23 | 60.50% |
| 3. If you feel bad you stop taking your medication? | No | 24 | 63.10% |
| 4. If you think about the last week, How often have you not taken your medicines? | > 2 installments | 18 | 47.40% |
| 5. Have you not taken any medication for the last weekend? | No | 31 | 81.60% |
| 6. In the past few months how many days you did not get your medicines at all? | > 5 days | 11 | 29% |
| | Never | 11 | 29% |

antiviral therapy (81.1% of respondents say that it is not affected nor walking for long distance). Figure 1 shows the average values for each SF-36 questionnaire scale as derived from respondents' replies (Table 3).

Results of health-related quality of life with the MOS-HIV questionnaire

Overall, about health, 38.9% said that their health is good. 46.3% responded that they did not feel physical pain and therefore the latter did not affect or hinder work, answering 79.2%. In this questionnaire, patients were also asked about the quality of their lives: in this question, 44% responded that they were good enough. The activities (either intense or light) appear to be unaffected by both the disease and the treatment. Majority of patients replied that they had never had difficulty thinking, remembering, never disturbing attention. As far as social activities are concerned, 35.2% said they were affected by health problems a few times. Regarding effects, as in the case of SF-36, the largest proportion of patients (38.5%) reports intense nervousness and energy more often (29.6%), and in the case of this questionnaire, high rates of patients report fatigue sometimes (30.8%). Emotions such as frustration, despair, and fear occur at very low rates and a few times as the patients in this study. Also, the right or wrong questions showed that the majority of patients are aware of the state of health (43.9%), report that their health is not exceptional at 35.7% and 40.5%

say that they generally do not feel bad [8]. Consequently, we conclude that the quality of life of HIV patients is not so much influenced by antiretroviral therapy as these patients report maintaining their vitality, energy, social and spiritual functioning, and do not feel pain that is a brake to complete any activity (Table 4 and Figure 2).

Discussion

This study reports on the quality of life related to the health of HIV-infected patients monitored at the Infectious Diseases Unit of the University General Hospital of Patras. This study took place between October 2014 and March 2015, that is to say, at a time when the simplification of the regimens has to some extent been achieved but further simplification is feasible. In other words, patients have received one tablet once a day, while in the past they received up to 20 tablets two and three times a day. This is an important factor that favors achieving satisfactory compliance in the treatment and thus achieving to the maximum extent the therapeutic target (undetectable viral load, high CD4 count) [9]. The purpose of this work is to make conclusions about the quality of life of HIV patients at a time of increased interest in this group of patients. The population sample of the study accounts for 47.5% of patients on regular monitoring. This size is considered to be able to draw conclusions on quality of life related to health. Participants were 43 ± 10 years of age, mostly with

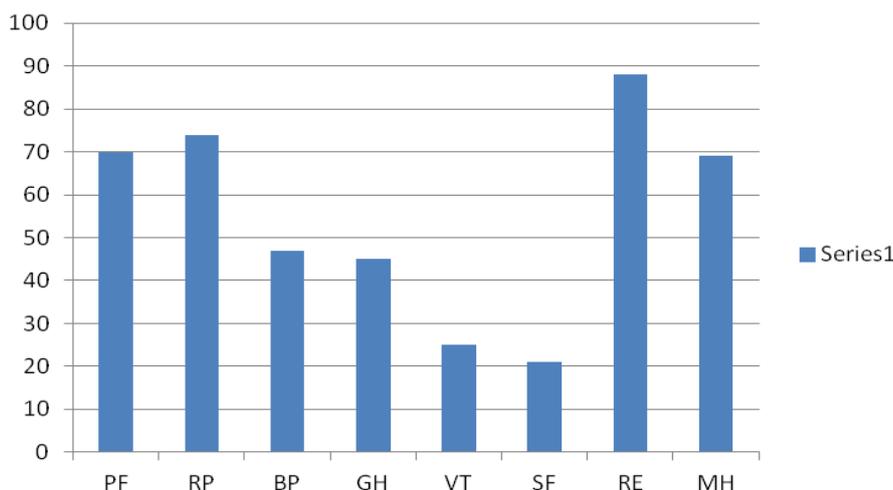


Figure 1: Showing the factors in the questionnaire. It is evident that the physical functioning (PF) of HIV patients is poorly influenced, their emotional sensitivity-feelings (RE) is minimally affected. As a result, the vitality (VT) and social role/function (SF) of this category of patients are moderately affected. It is understandable that compared with the results with perfectly normal patients, one would notice significant differences. RP: Body function, BP: Body pain, GH: general health condition, MH: mental health condition.

Table 3: Illustration of the average values for each of the 8 factors of the SF-36 questionnaire.

| Physical Health | Physical Function(PH) | Physical Role(RP) | Body Pain(BP) | General Health(GH) |
|-----------------|-----------------------|--------------------------|--|--------------------|
| % | 69.5 | 73.9 | No at all:47 A little:20.4 | 44.6 |
| Mental Health | Vitality(VT) | Social Role/Function(SF) | Feeling(RE) | Mental Health(MH) |
| % | 24.8 | 20.8 | Nervousness:76 Regret:79.1 Happiness: 88 | 68.9 |

Table 4: Average values for each scale of the SF-36 questionnaire as derived from the respondents' answers.

| | | | | |
|----------------------|---------------------------------|---|----------------------------|---|
| Body Function 75.85% | Function Role(FR) 36.8% | Pain(P) % At All:46.3 A Little:22.2 | Social Function(SF) 13% | Emotional(EW)% Happin:17.3 Mood:10.9 |
| Energy(E) 27.3% | Knowledge function(CF) 10.7% | General Health(GH) 25% | Health Danger(HD) 9.4% | Quality of Life(GQoL) 30.7% |

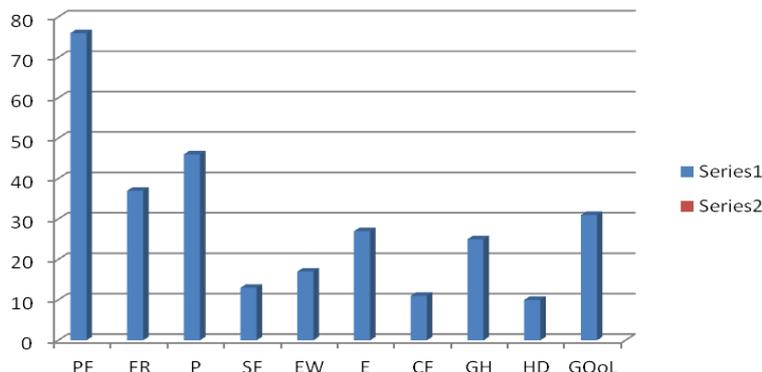


Figure 2: The mean values of the table for each of the parts of the questionnaire: physical function(PF), physical role(PR), pain(P), social role/function(SF), emotional role(EW), energy(E), cognitive function(CF), general health(GH), health fear(GH), quality life(GQoL), respectively.

homosexual relations and high school level mainly. 63.3% patients were treated while 56.7% took it for more than 5 years. However, the percentage of patients who lost less than two doses and therefore complied better during the last week decreased to 52.6%. In terms of quality of life, it goes without saying that better compliance is directly related to higher quality of life. From the SF-36 questionnaire, it was found that both the physical and mental health of patients with acquired immune deficiency is not affected as much as one would expect due to the simplified but multiple drugs formulated by HIV patients as the average values for physical and mental health are quite high. With both methods, it was found that what is moderately affected is the social role of HIV patients. Also, activities of any gravity appear not to be affected by health problems. Energy, vitality and pleasant emotions do not seem to be lacking in these patients. The studied scales based on MOS-HIV showed similar results. The only difference is emotions, where this questionnaire is more likely to show that seropositive people are largely downcast. Also, with the help of this it appeared that patients with HIV are aware of the problem and do not behave as completely normal [10,11]. The results may be optimistic for seropositive women, but their comparison with the quality of life of the healthy SF-36 population, also done by other researchers, clearly shows lower scores for HIV-positive patients compared to healthy. The results of this study show that HIV-positive people at the age of HAART have a low level of quality of life related to health compared to the general population. However, HAART has improved clinical markers (CD4 / viral load) as well as the life expectancy of these patients, which is equivalent to a better quality of life than the pre-HAART season. Besides, HIV infection has become a chronic disease. Thus, it affects the quality of life due to the chronic illnesses of the patients in this category (cardiovascular events, osteoporosis, etc.), but also because of old age and chronic antiretroviral treatment. The study's limitation is that the number of patients who answered the questionnaires was small, which means that the results came about a small group of patients. The present study could be extended to more centers in Greece and thus to conduct more general conclusions that will probably contribute to better daily clinical practice but also to the improvement and consequently to the reduction of side effects of antiretroviral drugs [12-14].

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Top

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