ACCEPTANCE OF CHRONIC DISEASE IN PATIENTS LIVING WITH HIV INFECTION: ONE CENTER'S CROSS-SECTIONAL STUDY

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ABSTRACT

Background: Despite effective treatment, the quality of life of patients infected with Human Immunodeficiency Virus (HIV) can be diminished by factors both directly and indirectly related to the infection.

Aim of the study: Determine factors affecting the acceptance of HIV infection as a chronic disease in HIV-infected patients.

Material and methods: A survey was conducted on 83 HIV-infected adults undergoing antiretroviral (ARV) treatment. The impact of social and medical factors on the acceptance of a chronic disease such as HIV infection was analyzed. Factors such as age, gender, education, route of HIV infection, living with family or a close person, professional activity, length of ARV therapy, history of an indicator disease, treatment breaks, markers of HBV infection, and current comorbidities requiring treatment that may affect self-acceptance, were included in the analysis. Information about the patients was obtained using the Acceptance of Illness Scale (AIS) survey and medical records.

Results: On average, on the AIS survey, patients scored 33.98 points, with a maximum of 40, which identifies very good acceptance of their infection. Among the many analyzed factors, only two variables showed statistical significance. Professionally active people accept their infection better, while lower acceptance was observed in patients who discontinued ARV therapy in the past.

Conclusions: The analysis of data from our study shows the need to consider the many factors influencing the acceptance of HIV infection in HIV-infected patients. This will allow the introduction of programs to improve care for people with a chronic disease and thus improve their quality of life. The high acceptance of their disease was undoubtedly influenced by professional activity, the effectiveness of ARV treatment, and good access to ARV drugs.

KEYWORDS: HIV, acquired immunodeficiency syndrome, antiretroviral therapy, highly active, chronic disease

BACKGROUND

Human Immunodeficiency Virus (HIV) infection is still a problem in Poland and around the world. Initially, Acquired Immunodeficiency Syndrome (AIDS) – a disease caused by HIV, was considered deadly because no causal treatments were known. It is now considered a chronic disease [1]. It was believed to be a punishment for sins and was also called the plague of the 20th century. In addition to the fact that the infection was a kind of death sentence, the sick were met with reluctance, ostracism, and even

hostility. It was a disease of the derailed, the illiterate, the social margin [2]. For this reason, HIV-infected patients did and still do fear disclosing their infection during a doctor's visit, hospitalization, and even among neighbors or sexual partners [3]. In a study by the National Network of People Living with HIV/AIDS "SIEC PLUS", almost one-fifth of respondents told the interviewers that before taking the HIV test, they were afraid that they would be fired from work or school [2]. Forty years after the identification of HIV, much has been achieved in terms of improved diagnostics and easily available treatments that are free of charge in many countries. In Poland, people infected with HIV receive antiretroviral (ARV) drugs free of charge from the National AIDS Center through infectious disease clinics. Treatment should be initiated as soon as possible after diagnosis. HIV infection cannot be cured, and although it can be lived with for a long time, it is a traumatic event [4]. What is important is the cooperation and trust between the patient and the doctor, free access to ARV drugs, as well as adherence to therapy. Interrupted therapy, even for short periods of time, can lead to resistance of the virus to the drug, the occurrence of a deficit of the immune system, and indicator diseases. Thanks to the progress of medicine, patients are often on 1 tablet therapy, which contains 3 ARV drugs. This enhances the convenience compared to the treatment many years ago where several tablets had to be taken several times a day. Treatment should be lifelong and uninterrupted [1]. However, the situation of the patients is aggravated by ostracism, discrimination, sometimes hatred, unemployment, homelessness, addiction to drugs or alcohol, and lack of a family or a loved one. The state of health is directly influenced by our lifestyle, our own decisions, and our behaviors [5].

Patients can be successfully treated, as evidenced by the lack of HIV viremia after 6 months of ARV therapy. Good cooperation with the attending physician and adherence to therapy are crucial. The clinical condition in which the infection was diagnosed is of fundamental importance in the prognosis of life. Asymptomatic people, with early detection of infection, immunocompetence, and effectively treated infection, can live and function in society similarly to uninfected people.

AIM OF THE STUDY

This study aimed to determine the degree of self-acceptance of chronic diseases from the point of view of HIV-infected patients successfully treated with ARV drugs. Medical, social, and demographic factors were also analyzed, evaluating their impact on the results of the survey obtained using the Acceptance of Illness Scale (AIS) scale. The authors were prompted to conduct the study because of the small number of publications available on this subject.

MATERIAL AND METHODS

The survey was conducted on 83 adult patients (58 men and 25 women) with HIV infection who were undergoing outpatient ARV treatment at the Outpatient Clinic of Infectious Diseases in Opole, Poland. In January 2022, a total of 183 patients were treated at this facility. The ages of the subjects ranged from 23 to 71 years. The study was approved by the Bioethics Committee of the Opole Medical Chamber in Opole (Resolution No. 340 dated 25.11.2021).

The people who took part in the study were mostly professionally active men aged 31–50, with secondary education, living with a family or a close person, and being on ARV therapy for a long time, over 5 years. The main routes of HIV infection among the respondents were homosexual intercourse with men, intravenous drug use in the past, and heterosexual transmission. All 83 subjects in the study were treated with ARV therapy, 78 of them successfully. The characteristics of the group are shown in Table 1.

Table 1. Characteristics of the study group

Patients with HIV	Number of N (83)	%
Age		
• up to 30 years	14	16.87
• 31–50 years	46	55.42
• >50 years	23	27.71
Gender		
• women	25	30.12
• men	58	69.88
Education		
• primary	16	19.28
• secondary	42	56.06
• higher	25	30.12
Professionally active patients	63	75.90
• with primary education	12	14.46
• with secondary education	31	37.35
• with higher education	20	24.10
The route of HIV infection		
• homosexual intercourse in men	26	31.33
• IDU	25	30.12
• heterosexual	22	26.51
• different (vertical, iatrogenic, unknown)	10	12.05
Living with family or a close one	63	75.90
A history of indicator diseases	19	22.89
Duration of ARV treatment in years		
• up to 1 year	4	4.82
• 1–5 years	29	34.94
• >5 years (min. 5.5 years, max. 16 years)	50	60.24
Interruption of the ARV therapy	14	17.07

Table 1 contd.

Patients with HIV	Number of N (83)	%
Presence of markers of HBV infection	27	33.75
Having a comorbidity (current disease requiring treatment, e.g., tooth decay, syphilis, hypothyroidism, COPD, obesity, hyperlipidemia, diabetes, psoriasis, epilepsy, Kaposi's sarcoma, esophageal cancer)	43	51.81

Information about the patients was obtained from the AIS survey that was filled out, a proprietary questionnaire, and the analysis of medical records. Patients who gave their consent during a routine visit to the clinic from December 2021 to March 2022 anonymously filled in the AIS questionnaire. The AIS is a chronic disease acceptance scale that can be applied to many chronic diseases. The form was developed and adapted to Polish conditions by Z. Juczyński. It consists of 8 negative statements, such as "I have trouble adapting to the limitations imposed by the disease", "Due to my health condition, I am unable to do what I like the most", "Illness makes me feel useless sometimes", "Illness makes me more dependent on others than I want to be", "Illness makes me a burden to my family and friends", "My health makes me unable to feel like a whole person", "I will never be as self-sufficient as I would like to be", and "I think people around me are often embarrassed because of my illness". The respondent marks the appropriate point from 1 to 5, where 1 means – I strongly agree with the statement, 2 – I agree, 3 – I do not know, 4 – I disagree, and 5 – I strongly disagree. In total, 8 to 40 points can be achieved, the sum of all points allows us to assess the degree of acceptance of the disease. A low score means a lack of acceptance of the disease, and a high score means a very good acceptance of the disease [9]. The statements contained in the form and the possible answers were explained to each surveyed patient. The scale has no standards. For this study, the following acceptance ranges were adopted: 29 points or higher – very good acceptance of the disease, 19–29 – average, and 18 or less – no acceptance of the disease. The analysis included factors that may affect self-acceptance, such as age, gender, education, HIV infection route, living with a family or close person, professional activity, duration of ARV, history of an indicator disease, which indicates significant immunodeficiency, interruptions in ARV treatment, markers of HBV infection, and current comorbidities requiring treatment.

The R software was used in the statistical analysis. Kruskal-Wallis tests were performed for the age group, education, and duration of ARV treatment in years. Chi-squared tests were performed for the remaining variables.

RESULTS

The average number of points obtained in the AIS form among all the examined patients was 33.98, the deviation – 7.29 points, the median – 37.00, with the minimum number of points being 12 and the maximum being 40, Q1 – 31.50, and Q3 – 40.00. Among the respondents, 64 people accepted their HIV infection very well, i.e., 77.11% scoring above 29 points. An average acceptance was shown in 15 people, i.e., 18.07% had scores ranging from 19 to 29 points. Only 4 patients, 4.82%, did not accept their illness, scoring less than 18 on the AIS scale.

Professionally active patients and those who had discontinued ARV therapy in the past showed statistically significant differences at a significance level of 0.05. Professionally active people accept their disease better (p = 0.02496), and patients who discontinued ARV therapy were statistically worse at accepting their disease (p = 0.04567). For the remaining variables, the results were not statistically significant, as they were p > 0.05. Figure 1 and Figure 2 illustrate the impact of statistically significant variables on the test results.

Table 2. Comparison of the average number of points on the AIS scale obtained in chronically ill patients with various diseases

Patients with chronic diseases	The average number of points obtained on the AIS scale
Patients living with HIV [6]	26.08
Patients living with HIV [7]	18.90
Patients with multiple sclerosis [9]	24.83
Women treated for reproductive organ diseases [13]	28.15
Women with breast cancer [14]	27.21
Patients with diabetes [18]	25.16
Patients with cardiovascular diseases [19]	27.78
Patients on chronic dialysis [20]	24.82
Patients living with HIV infection – own study	33.98

DISCUSSION

Acceptance of one's chronic disease is important for mental and physical health and functioning within one's society and family. Many factors affect the acceptance of the disease and, thus, quality of life. The AIS scale is used to assess the degree of acceptance. The surveyed group of 83 people accepted HIV infection very well, obtaining an average of over 30 points out of 40 possible. Professional activity, which is of great importance for financial independence and standard of living, had a positive impact. The fact that patients had discontinued ARV therapy in the past

had a negative impact on the study result. This could be due to the lack of financial resources to travel to the clinic, return to drug use, or alcohol dependence. It would be worth checking several different factors on a larger number of surveyed people. The review of publications shows that patients with various chronic conditions were tested in terms of their acceptance of the disease, considering many different factors.

There are few studies describing the acceptance of the disease in people living with HIV infection, consisting mainly of publications on quality of life [1,2,6,7]. Xueling Xiao and colleagues conducted a study on a large group of 555 patients, which showed that actively coping with the disease has a positive effect on the acceptance of the disease. A coping questionnaire widely used in China was used [6].

Kamińska-Otok EE examined the patient's quality of life and found that many physical and mental factors, such as physical conditions, family situations, a positive attitude, and acceptance of one's illness, had a large impact on one's quality of life [3]. In addition, acceptance of the disease may be a motivating element for the patient [8]. The published work included studies on patients with, among others, hypertension, dialysis, diabetes, COPD, cancer, Crohn's disease, multiple sclerosis, obesity, and chronic pain [9,10,11,12,13,14,15,16,17]. Rosinczuk J et al. also found that the level of acceptance in patients with multiple sclerosis significantly affects quality of life [9]. Moczydłowska A et al. examined patients in surgical and conservative wards and found that the acceptance of one's illness is the most important element of living with the disease [10]. Jankowska-Polańska B, Ilko A, and Wleklik M studied patients with arterial hypertension and concluded that the higher the level of acceptance of the disease, the better the quality of life [11]. Accepting the disease means adapting to its limitations [12]. Kaźmierczak M et al. studied the degree of disease acceptance in women treated for reproductive organ diseases. The mean AIS score was 28.15, which was considered by the researchers to be a medium level [13]. Xueling X et al. showed a moderate acceptance of their disease in HIV patients, obtaining 26.08 points [6]. Kozieł P et al. surveyed

women with breast cancer using the AIS scale and obtained an average score of 27.21 points [14]. According to Juczyński Z, the obtained result on the AIS is comparable to the average result of one of eight clinical groups, including diabetics, dialysis patients, men after myocardial infarction, patients with multiple sclerosis, patients with chronic pain, patients with back pain, women diagnosed with migraine, and women with cancer breast and uterus [15].

Limitations of study

The authors are aware of the limitations of this study. First of all, the group size was small. In the future, it will be desirable to perform similar studies on larger groups. In the current study, we were also unable to include several important data points in the statistical analysis, including age at diagnosis of HIV infection and blood CD4+ lymphocyte count values (at diagnosis and nadir). This data could not be included because medical documentation was incomplete for many patients who had been treated at other centers in the past.

Conclusions

The study was conducted on HIV-infected patients treated with ARV therapy in an outpatient setting, successfully and in good condition. Patients living with HIV treated with ARV drugs obtained an average of 33.97 points on the AIS scale, which indicates a very good acceptance of their disease. The results of the study were undoubtedly influenced by access to therapy and its effectiveness.

There is a need to conduct further research on a larger group of HIV patients. At the same time, the analysis of the data from the study shows the need to consider many factors influencing the acceptance of HIV infection in HIV patients. This will allow the introduction of programs to improve care for people with a chronic disease and thus improve their quality of life.

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