**Title :Frequency of major psychiatric disorders in patients with HIV in health care centers of Rafsanjan and Kerman in 1390**

**Running title : Psychiatric disorders in patients with HIV**

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**Abstract**

**Aim and Background**

Psychiatric disorders are common in HIV-infected patients and for sure have direct impact on both prevention and management of these patients. Within this research the prevalence of major psychiatric disorders including mood, anxiety and psychotic disorders in HIV-infected patients ofRafsanjanand Kerman health care centers is determined.

**Materials and Methods:**

83 HIV-infected patients were interviewed by a psychiatrist in these health centers and their information was registered through a standard CIDI questionnaire (version 2.1) and statistically analyzed.

**Results:**

Out of 83 participating patients in this study, 71 cases (85.5%) were male and 12 cases (14.5%) were female. Their age range was from 21 to 62 years old. 69 cases (83.1%) were diagnosed with at least one major psychiatric disorder and 14 cases (16.9%) with none. Among HIV-infected patients, 54 cases (65.1%) with a mood disorder, 21 (25.3%) with psychotic and 41 (49.4%) with anxiety disorder.

**Conclusion:**

Major psychiatric disorders are more common in HIV-infected patients rather than normal community, so on-time diagnosis and therapy and well management of these problems could be truly a promising step in pandemic control of HIV.

**Keywords:**

major psychiatric disorders, mood disorder, psychotic disorder, anxiety disorder, human immune-deficiency virus (HIV)

**Declaration of interest** : None

**Introduction**

Human immune-deficiency virus is the well-known popular etiology for AIDS. This retro-virus which is one member of the lenti-viruses family is one with RNA and capsid. So far, four of this family has been recognized with the ability to infect human, including HIV1, HIV2, HTLV1 and HTLV2. HIV1 and HIV2 are biologically a little bit different. HIV2 is more common in western Africa and between the hetero-sexual (1).

The patho-physiology of the virus is through infecting the immune cells of the body. Like other viruses, HIV is an obligate intra-cellular parasite, so its’ proliferation, is depended on the host cell. The virus needs special enzymes and proteins to survive (1).

HIV affects human immune system through attacking CD4+ lymphocytes and by activating body immunologic responses, providing a cytokine environment which is used for its’ proliferation. Following lymphocytes’ dysfunction, other immunologic procedures like macrophages’ activation, cytotoxic T cells’ induction, NK cells’ propagation and B cells’ secretion is ruined.

Victims of a same source could present various clinical features which show cases differences of HIV infection. The one constant patho-physiologic feature is the virus progressive damage on immune cells’ function as well as their number.

Viruses usually enter from cells of vagina or rectum and as the first stage of infection. They migrate toward the nearby lymph nodes and start to proliferate. By virus invasion to spleen and their entrance to Reticulo-endothelial system, the primary infection expands and leads to an extensive viremia (2, 3).

Although HIV infection process and expansion could vary among patients, but there is also a typical pattern. Infection by the virus cause both humeral and cell-mediated immunologic response. This response is said to be the reason for almost 10 years latency period. This person is a carrier within this time and can infect others, but is asymptomatic with no clinical manifestation of the disease (2) .

In 50% to 70% of patients with primary HIV infection, 3 to 6 weeks after virus exposure, a mononucleosis-like syndrome occurs. This period comes along with sever viremia, as body immunologic response. The patient is lethargic with low grade fever and flue like symptoms. As this period passes by, the patient starts the latency asymptomatic period (4).

Progressive deterioration of immune system through viral procedures, finally results in clinically manifested AIDS disease with severe symptoms along with malignancies and sever opportunist bacterial and fungal infections. Different studies have shown that from 1996 to 2000, the number of hospitalization due to secondary HIV-induced infections or death has decreased for 60% to 80% (4).

HIV transmission ways which are known and few, include sex, blood and mother-child transmission during pregnancy or delivery. Neither the risk of transmission, nor the popularity ofthese ways is equal. More than 70% of HIV victims have been infected through sex (4).

In Iran, sex-related portion has remained constant since year 1385 which is 5% to 8%, although the pure number has tripled. Most of this change is because more detection of carrying and suffering women (5).

According to seasonal report of health ministration in fall 1388, the total registered number of HIV- infected cases is 20457, HIV suffering patients 2221 and death number of 3543. Considering the fact that these statistics for the most up-looking way show the minimum rate of existing cases of each category, WHO and UNAIDS, have attempted to design a commuter program to estimate these rates for a more precise view. Application of this software along with a systematic review study done in Iran, shows 80000 HIV-infected existing cases (5).

Fortunately there has been great progress in HIV patient management. Although all existing therapeutic approaches do not clean up the body from virus, but they inhibit or decelerate virus proliferation, so result in better clinical status for patient.

Therapeutic goals for HIV management include, achieving the maximum suppression of viral procedures, maximum maintenance of immune system functions, life quality improvement of the patient and decreasing worldwide morbidity and mortality rate of HIV infection (6).

Signs and symptoms of depression are commonly diagnosed in HIV-infected patients. In fact depression is the most common reason for HIV patients’ referral to psychological care. In a study done on HIV cases, 85% were reported with depression and 26% with apathy. Although apathy could be a sign for depression in HIV patients, but usually depression cause a lot more than just apathy for HIV victims (7). In other study it was shown that 8% of HIV patients represent depression signs 17 months after diagnosis. Other studies also suggest psychological problems, as mentioned more frequently, mania syndrome and bipolar disorder can seriously increase the risk of HIV exposure. Only few studies confirm increase of type I and II Bipolar disorder, Cyclothymiaand hyperthymiain HIV-infected patients (8).In a study done in India on 51 HIV-infected patients, anxiety symptoms was obviously diagnosed in 36% of patients, 4 to 6 weeks after being diagnosed as positive. Fear of dying in 8.9% and fear of future in 18.9% were also detected. Alcohol abuse, poor family or work relationship, suicidal thoughts, fear of disease disclosure to family and friends and society discrimination were in the next level (9).

Considering the importance of psychiatric disorders in HIV-infected patients along with lack of studies in the field, this study is designed in attempt to determine the prevalence of major psychiatric disorders in HIV-infected patients for a better management and action plan for these patients.

**Materials and Methods:**

This is a descriptive cross-sectional study done on 83 HIV-infected cases, in no stage of clinical manifestation of AIDS disease, came to health center ofRafsanjan and Kerman, randomly chosen, being explained about our study and agreed to participate. Patients’ ages and the time period after being diagnosed as HIV positive are the two most important variables of our study. According to Ericsson psycho-social evolution stages, patients were divided to two categories of 20 to 40 and 40 to 65 year old. (10) Based on the time duration passed by diagnosis time, the patients are divided to three categories, less than 10 years, 11 to 13 years and over 13 years.

CIDI, stands for composite international diagnostic interview, is a conformedquestionnaire, designed by WHOin association with USA health ministration for evaluating psychiatric disorders. It provides a set of all possible differential diagnosis by considering both systems of ICD-10 and DSM-IV. It includes 14 sections, named alphabetically from A to X which covers 17 diagnostic domains. Two versions of CIDI is available, one designed as life-time period and the other as 12 months.

Within this study we have used CIDI 2.1 (life-time version) which is translated to Persian by Kaviani and et al and published by Mehr-E-Kavian publication center in year 1385. We used section E,F,D,G and K each for mood, psychotic and anxiety disorder diagnosis.

To perform this study and choose our sample size, we contacted patients, they have been clearly explained about the research, and after approval and filling a written testimonial they were officially included. They were then interviewed by a psychologist to fill CIDI questionnaire and all patients’ information was documented. All information then was analyzed by the analytic software of SPSS- 17 and the results were registered. All patients’ information will be safe with our researchers. P-value less than 0.05 will be assigned as statistically significant.

 **Results**

This recent study is designed to determine psychological status of 83 HIV-infected patients with registered medical records in Rafsanjan and Kerman health care centers. Out of all participants in our study, 71 cases (85.5%) were male and 12 cases (14.5%) were female. Their age range was from 21 to 62 (table 1).

Table 1: Indexes in age and time period after a person was diagnosed as HIV positive

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Minimum | Maximum | Range | Mean | SD |
| Age  | 21 | 62 | 41 | 39.58 | 7.950 |
| Time period after a person was diagnosed as HIV positive | 1 | 18 | 17 | 7.54 | 4.286 |

All patients had CD4>200 and in stage one. 44 cases had a history of a past major psychiatric disorder and 39 cases with none. P- value for this relation was 0.002 which statistically meaningful. 13 cases (81.3%) had a positive family history of a past major psychiatric disorder and 56 cases (83.6%) with none. P- value of this relation was 0.823 which is not statistically valuable.In our study, the distribution of mood disorders among HIV patients was watched. 54 cases (65.1%) were diagnosed with mood disorder and 29 cases (34.9%) with none. This 54 cases included 44 depression cases (53%) and 10 bipolar cases (12%). Both of these two were greater than normal society as was mentioned before. 41 cases (49.4%) had criteria for anxiety disorders and 42 cases (50.6%) were not anxious (chart 1).

Chart 1: frequency of mood disorders in patients

**Discussion**

In our study, 69 cases (83.1%) were diagnosed with at least one psychiatric disorder and 14 (16.9%) with none. In a study done by Shakeri and et al in year 1380 with the focus on psychiatric status of incoming HIV-infected patients to Kermanshah health center, reported 93.18% of all patients, ( 96.69% of male and 63.63% of female) dealing with at least one psychiatric disorder. (4) As seen, the prevalence of psychiatric problems is four times greater in HIV- infected patients compering to normal society.

In a study done by Shakeri et al, 43.18% of all HIV-infected patients were diagnosed with mood disorder, which is the most prevalent psychiatric disorder with HIV patients. In a study by Tit et al, the prevalence of depression among HIV patients was 80% which is again noticeably higher than normal society.(10)

69 cases (83.1%) were suffering from a major psychiatric disorder and 14 cases (16.9%) with none. In a study done in 1380 by Shakeri et al with the focus on mental status of HIV-infected patients, 93.18% of all HIV cases (96.69% of male and 63.63% of female patients) suffered from at least one major psychiatric disorder (11) .There was also a significant relationship between a positive past history of a psychiatric disorder and HIV infection. All these patients had a relapse of depression even with more severe symptoms after being diagnosed as HIV positive. There was no meaningful relationship between a positive past family history and present psychiatric disorders in HIV positive cases.

In a study byLyketsos and et al, the prevalence of mania syndrome with HIV patients was 8% which is 10 times higher than normal society (12). As is resulted in many close observations of HIV patients, higher rate of psychological disorders, specifically mania syndrome, makes them susceptible for more high risk behavior, so considerably causes a more than expected risk of disease transmission. So not only they make their disease expand and progress much sooner than expected as normal, but also take more victims as well, which is greatly unfortunate (2). It is necessary that we consider to psychiatric problem in patients with HIV.

The prevalence of psychotic disorders in HIV patients is also watched in our study. 21 cases (25.3%) were diagnosed with at least one and 62 (74.7%) with none. In a studyby Cournos and et al on schizophrenic patients, 44% have had an active sex life over the past six month.62% had more than one sex partner. More high risk sexual behavior was detected with more sever schizophrenic cases with more positive schizophrenia diagnostic criteria, so more exposed to HIV infection(13).As is clearly understood, management and therapy of psychological issues should be a priority in HIV patients.

There is also an overlook on anxiety disorders of HIV patients in this study. 41 cases (49.4%) were diagnosed with at least one and 42 cases (50.6%) with none. In a study byPrabha and et al, anxiety disorders was detected in 36% of patients(14). In shakeri andet al study, anxiety disorder was presented in 18.93% of HIV patients (19% of male and 18.8% of female patients).

In a study by Ronchi , It was seen that prevalence of new onset psychotic disorder is 3.7% (15).

Distribution of major psychiatric disorders, based on patients’ sex, shows a prevalence of 58% in female and 87.3% in male, so clearly more noticeable with the male.

Considering age as a variable, the highest prevalence of psychiatric disorders were observed with 20 to 40 year old group, compering to group of 41 to 65 years old (91.8% in the first and 70.6% in the second category).

Based on patients’ living place, there was no difference in distribution pattern of psychological disorders. So there is no connection between urban and rural facilities and distribution of psychiatric disorders in HIV patients. But it seems necessary to mention that it is so likely that the group of rural HIV patients are being missed to report, as their number is much less than expected.

Distribution of major psychiatric disorders among HIV patients based on existence of a past history of the issue shows a great variance. All patients with a positive past history of a psychiatric disorder experienced disease relapse even with more severe symptoms after being diagnosed as HIV positive.

There was no relationshipbetween family history and distribution of psychiatric disorder in HIV positive patients.

There was also no significant relationship between severity of psychiatric disorders and time period passed after a patient is diagnosed as HIV positive.

**Conclusion:**

Major psychiatric disorders are much more prevalent in HIV-infected patients compered to normal people, so on-time diagnosis and management of them could be an effective approach to control pandemic HIV. Monthly psychological check-up and visit is highly recommended for HIV positivepatients.

**Acknowledgement**

The authorssincerely appreciate all our participants as well as all those who helped us with this research. We would also specially thank research council of Rafsanjan medical science university for their great help and corporation.This study is based on a research proposal that established in research committee of Rafsanjan university of medical sciences and it is based on a thesis for achievement of Doctor degree in medicine.

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