

# Prevalence of Personality Disorders in Patients with HIV Infection Referred to Voluntary Counseling and Testing Center, Imam Khomeini Hospital, Tehran, Iran

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## Abstract

**Background:** HIV infection affects all aspects of life, including physical, psychological, social, and even spiritual. Personality disorders can also contribute to the disease through high-risk behaviors and recognizing them could be beneficial in designing programs to prevent HIV in the community. Therefore, this study aimed to investigate the prevalence of personality disorders in patients with HIV infection.

**Methods:** Totally, 100 HIV-infected patients who were registered and treated at Imam Khomeini Hospital in Tehran were recruited. Subjects were assessed by the Minnesota Multiphasic Personality Inventory (MMPI) called the Mini-Mult and the demographic questionnaire. SPSS software (Version 22) was used to analyze the data.

**Results:** Based on the scales for hypochondriasis, depression, hysteria, antisocial personality disorders, paranoid personality disorder, psychasthenia, schizophrenia, and mania, 40, 5, 25, 23.3, 18.3, 28.3, 28.3, and 8.3% of patients had scores above 70, respectively. The highest prevalence of personality disorder with T scores above 70 belongs to hypochondriasis with a prevalence of 40% and the lowest prevalence of personality disorders with T scores above 70 belongs to depression (5%).

**Conclusion:** The findings indicate that the prevalence of personality disorders in people living with HIV (PLWH) is higher than the general population with the highest prevalence for hypochondriasis and the lowest prevalence for depression. Therefore, future policies are better to consider such personality disorders in formulating programs and interventions to improve HIV care and treatment.

**Keywords:** HIV/AIDS, Minnesota Multiphasic Personality Inventory (MMPI), Personality disorder

## Introduction

An estimated of 60431 HIV patients are living in Iran. The total number of registered cases from the beginning of the epidemic is 41494 people, of which 19164 deaths have been documented. Although 82% of all cases are men and 18% are women, the pattern of transmission and the incidence rate for women and men have changed in recent years. Of the total cases identified and reported in 2019, 29% of cases were women and 71% were men. Fifty percent of all known cases at the time of diagnosis were in the age group of 20-45, and the pattern of transmission based on age has not changed in recent years (1).

HIV/AIDS affects all aspects of life, including mental, social, and physical aspects, and can lead to fear of living with the infection. The infection could cause many physical complications due to the involvement of multiple organs. In addition to physical complications, people with this infection could suffer from psychological problems. The most common psychological problems in these patients are depression and anxiety. These problems may also affect family members. It seems that amongst the multiple complications of the disease, psychological issues have received the least attention. In fact, the infection causes loss of social, economic, occupational, and even residential positions. Therefore, people with HIV infection are very vulnerable and need appropriate psychological support from family and community (2).

The onset of personality disorders can be from the early childhood; however, they are usually diagnosed in individuals aged 18 years or older. On the other hand, such disorders could be associated with distress, discomfort, and even significant injuries. Most personality disorders are associated with other mood disorders. According to previous studies, 42 to 74 percent of people with personality disorders have been diagnosed with major depression and 4 to 20 percent with bipolar depression (3).

Knowledge of HIV transmission is not sufficient to reduce high-risk behaviors that lead to HIV, and this shows that certain personality traits increase the likelihood of developing high-risk behaviors. Traditional approaches to risk reduction counseling emphasize avoiding negative consequences, as condoms are recommended to prevent sexually transmitted diseases. The effectiveness of such educational approaches have

been proven for people with special personality traits. Effective prevention and treatment programs for people living with HIV should consider the certain personality factors that cause the emergence of high-risk behaviors, harming the health of oneself and others (4).

It has been documented that the patients with AIDS could significantly be different from healthy individuals during their developmental period in following scales: avoidance personality patterns, schizotypal personality disorder, paranoid personality disorder, clinical syndromes, anxiety, depression, alcohol and drug dependence, thinking disorders, and delusional disorders (5).

Assuming the higher prevalence of personality disorders in people with HIV, it is crucial to address these disorders in future programs and interventions to improve HIV care in the community. Therefore, this study aimed to investigate the prevalence of personality disorders in patients with HIV infection visiting the Voluntary Counseling and Testing (VCT) Center of the Infectious Diseases Department of Imam Khomeini Hospital, Tehran, Iran.

The Minnesota Multiphasic Personality Inventory (MMPI) is a standardized psychometric test of adult personality and psychopathology. Psychologists and other mental health professionals use various versions of the MMPI to help develop treatment plans and differential diagnosis, answer legal questions (Forensic psychology), and screen job candidates during the personnel selection process, or as part of a therapeutic assessment procedure (6).

The original MMPI was developed by Starke R. Hathaway and J. C. McKinley, faculty members of the University of Minnesota, and first published by the University of Minnesota Press in 1943. It was replaced by an updated version, the MMPI-2, in 1989. A version for adolescents, the MMPI-A, was published in 1992. An alternative version of the test, the MMPI-2 Restructured Form (MMPI-2-RF), published in 2008, retains some aspects of the traditional MMPI assessment strategy, but adopts a different theoretical approach to personality test development (6).

## Materials and Methods

The present study was a cross-sectional study in which the prevalence of personality disorders among HIV patients was assessed using the MMPI test.

**Study population**

The population of the study was HIV patients referred to the VCT Center of Imam Khomeini Hospital from June 2016 to February 2017. A total of 80 HIV patients were included in the study, of which 20 failed to complete the test and were therefore excluded from the study and only 60 patients were included in the final analysis. Written informed consent was obtained from all the patients before the interview.

**Sampling method**

Applying a convenient sampling, 60 HIV patients were recruited in the study. The inclusion criteria were being in the age group of 18 to 60 years, having the minimum of secondary school education, signing the consent to participate, and completing the test related to personality disorders. Exclusion criteria were being in age <18 or >60 group, having less than secondary school education, refusing to participate or answering personality disorders test.

**Data collection**

The data related to participants' characteristics and personality traits were collected using a researcher-developed demographic questionnaire as well as the Minnesota Multiphasic Personality Inventory (MMPI) including 71 questions called Mini-Mult. This test was prepared and distributed to 80 people. From amongst the patients referred to this center, those who met the inclusion criteria and signed the consent to participate were included in the study and filled the MMPI and demographic questionnaires. It should be noted that the conditions for filling out the test and questionnaire were the same for all participants.

**Data analysis**

To calculate the raw and T scores, the collected data were entered into a MMPI software for this purpose, and then the demographic information of each patient along with the scores obtained in the MMPI test was transferred to SPSS software version 22. A team including two psychologists, a physician, and a peer educator analyzed the data and obtained the prevalence of personality disorders at the scales specified and standardized by the MMPI. Finally, the prevalence of each of these disorders was determined by scores obtained in 8 clinical scales, including

hypochondriasis, depression, dramatic personality disorder, psychopathy, antisocial personality disorder, paranoid personality disorder, schizophrenia, and hypomania. The results were reported using descriptive and inferential statistical tests and SPSS software version 22. Quantitative variables were reported as mean and standard deviation and qualitative variables were reported as frequency and percentage.

**Results**

There was an equal number of males (30) and females (30) in the present study. The majority of participants aged between 31 and 50 years (76.6%). The minimum and maximum age were 21 and 59 years, respectively (Table 1). Approximately, 45% of patients were sexually infected with HIV (Table 2). According to the L scale (Lying), 78.3% of the subjects had scores between 30 and 55, and according to the F scale (Symptoms of mental illness), 71.7% of patients had scores below 70. Also on the K scale, 48.3% of the scores obtained by patients were less than 44. On the hypochondriasis scale, 40% of people had scores above 70 and in terms of the depression scale, 55% of patients' scores ranged from 61 to 72. In terms of the hysteria scale, the highest scores obtained by patients (46.7%) were less than 59. On the antisocial personality disorder scale, most patients (46.7%) had scores between 35 and 59. According to the paranoia scale, about 33.3% of patients scored between 60 and 69. In terms of psychasthenia, the highest number (43.3%) of patients' scores was between 60 and 72. According to the schizophrenia scale, the highest number (58.3%) of patients' scores was between 60 and 74. Also, in terms of the mania scale, the highest number (33.3%) of patients' scores was between 60 and 69 (Table 3).

**Table 1.** Frequency of subjects age

Age group	Number	Percentage
21-30	7	11.7
31-40	23	38.3
41-50	23	38.3
51-60	7	11.7
Total	60	100

**Table 2.** Frequency of HIV transmission routes among the subjects

Way of transmission	Number	Percentage
Addiction by injecting drugs	25	41.6
Sexual contact	27	45.0
Blood products	1	1.7
Transmission from mother to child	1	1.7
Other routes	6	10.0
Total	60	100.0

**Table 3.** The highest prevalence in each scale of MMPI

Scale	T score	Percentage
Lie (L)	30 to 55	78.3
Infrequency (F)	Less than 70	71.7
Defensiveness (K)	Less than 44	48.3
Hypochondriasis (HS)	Above 70	40
Depression (D)	61 to 72	55
Hysteria (HY)	Less than 59	46.7
Psychopathic deviate (PD)	35 to 59	46.7
Paranoia (PA)	60 to 69	33.3
Psychasthenia (PT)	60 to 72	43.3
Schizophrenia (SC)	60 to 74	58.3
Hypomania (MA)	60 to 69	33.3

## Discussion

There have not been many studies on personality disorders in people living with HIV and the results of several relevant studies confirm the hypotheses of the present study. The findings of one study showed that the prevalence of personality disorders is significantly higher in HIV positive individuals compared to HIV negative individuals. These findings are consistent with the results of the present study, which confirm the higher prevalence of personality disorders in people living with HIV (7). It reflects the high-risk sexual behaviors in a certain group of HIV infected individuals with personality disorders. People with other risky behaviors such as IV drug use also represent certain types of personality disorders. The most common personality trait in the HIV-infected group is antisocial behaviors. It is apparent that people with personality disorders are more likely to engage in high-risk behaviors. Besides, HIV infected individuals with personality disorders are more likely to develop depression and anxiety. Some aspects of personality disorder make people more susceptible to HIV infection (For example, poor social skills

and inability to control individual behaviors) and these aspects also increase unwillingness to engage in treatment and consequently accelerates the spread of infection through high-risk behaviors. Research shows that the association of HIV infection and personality disorders leads to drug resistance and reduced adherence to treatment (2).

In another study, it was found that young people who put themselves at risk perceived the risk to be smaller, better known, and more manageable than those who did not. This confirms the results of this study indicating a higher prevalence of personality disorders in people infected with HIV through high-risk behaviors and it seems that according to the characteristics of people with personality disorders, such people underestimate the possibility of danger and engage in more risky behaviors (8).

Also, in another study performed on two groups of 60 people who were addicted to heroin (One group was HIV positive and the second group was HIV negative), the results showed a higher prevalence of impulsive behaviors and risky decisions among HIV-positive group in comparison to the second group, which is in line with the hypotheses of the present study (9).

The prevalence of Paranoid Personality Disorder (PPD) among the general population is 0.5 to 2.5% (9). Considering the high prevalence of this disorder in the present study (18.3%), a significant difference with the general population exists. The prevalence of Schizotypal Personality Disorder (SPD) in the general population is 7.5% (9), while it was 28.3% in our study population indicating a significant difference. The prevalence of Hysteria (HY) in the general population is 2 to 3% (10). However, it was 25% in the present study and its significant difference with the prevalence in the general population confirmed the hypothesis of this study. Comparing the prevalence of clinical personality patterns and severe personality disorders in HIV-infected patients and healthy individuals, there were a higher prevalence of clinical personality disorders (such as schizoid personality disorder; avoidance, antisocial, and aggressive behaviors; obsessive disorders; passive-aggressive, and self-destructive behaviors) and severe personality disorders (such as schizotypal and borderline personality disorder) among the study groups.

In the general population, the prevalence of antisocial

personality disorder is 3% in men and 1% in women (10). Considering the high prevalence of psychopathic deviate (PD) tendency in this study (23.3%), a significant difference with the general population was observed. This result is also consistent with the findings achieved by Shakeri J *et al*, who estimated the prevalence of antisocial personality disorder to be 31.8% in HIV-positive patients referred to the Kermanshah Center (10).

In a study conducted by Nouri H *et al*, the relationship between personality dimensions and AIDS in patients with HIV/AIDS in Arak city was assessed. The results indicated a significant difference in personality dimensions between AIDS patients and healthy individuals (11) and it appeared that personality disorders are common in people with HIV infection. Another study indicated a significant inverse relationship between resilience and mental disorders. It showed that resilience has generally a significant effect on mental health and on the subscales of obsessive-compulsive disorder, interpersonal sensitivity, anxiety, aggression, phobia, and psychosis in patients with HIV / AIDS. It has also a significant effect on depressive disorders and paranoid thoughts. Furthermore, the degree of resilience is directly related to the mental disorders of HIV patients (12). Therefore, policy makers and practitioners responsible for the mental health of HIV/AIDS patients should pay more attention to psychological aspect of HIV patients health to improve it by teaching them to be resilient.

The results of the present study are consistent with previous studies in which the depression had the lowest prevalence among the psychological disorders of HIV patients (12). Nearly 5% of people with HIV

represent symptoms of depression (which had the lowest prevalence among the disorders studied in this study). However, in the study by Simoni JM *et al*, the prevalence of depression in these patients was estimated to be 20 to 32%. However, due to other common problems caused by HIV, such individuals often remained undiagnosed. It seems that the discrepancy in results obtained in this study and previous studies is due to the difference in measures and scales. Therefore, diagnosing depression in HIV-infected patients requires the use of accurate and standardized tools (13).

## Conclusion

The findings indicate that the prevalence of personality disorders in people living with HIV is higher than the general population with the highest prevalence for hypochondriasis and the lowest prevalence for depression. Therefore, future policies are better to consider the personality disorders in formulating programs and interventions to improve HIV care and treatment.

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## Conflict of Interest

The authors have no conflict of interests.

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## References

1. Najafi Z, Taj L, Dadras O, Ghadimi F, Moradmam B, SeyedAlinaghi SA. Epidemiology of HIV in Iran. *Curr HIV Res* 2020;18(4):228-236.
2. SeyedAlinaghi S, Foroghi M. Psychosocial problems in people living with HIV / AIDS. *Osaneh* 2011
3. Javanmard GH. *Psychopathology 2*. Tehran: Payamenoor University Publication; 2008. Persian.
4. Mehraeen E, Safdari R, SeyedAlinaghi S, Noori T, Kahouei M, Soltani-Kermanshahi M. A mobile-based self-management application-usability evaluation from the perspective of HIV-positive people. *Health Policy Technology* 2020;9(3):294-301.

5. Tabrizi GH, Vatankhah M, Tabrizi S. [Evaluation of personality disorders in patients with AIDS with a pattern of high-risk behaviors]. *Khoon (Blood)* 2009;6(4):292-300. Persian.
6. Mirzamani SM, Besharat MA. [A study of the validity scales of persian form of MMPI (short form)]. *J Psychology Education* 2001-2002;31(2):79-97. Persian.
7. Perkins D, Davidson EJ, Leserman J, Liao D, Evans DL. Personality disorder in patients infected with HIV: a controlled study with implications for clinical care. *Am J Psychiatry* 1993 Feb;150 (2):309-15.
8. Benthin A, Slovic P, Severson H. A psychometric study of adolescent risk perception. *J Adolescence* 1993;16(2):153-68.
9. Paydary K, Torabi SM, SeyedAlinaghi SA, Noori M, Noroozi A, Ameri S, et al. Impulsivity, sensation seeking, and risk-taking behaviors among HIV-positive and HIV-negative heroin dependent persons. *AIDS Res Treat* 2016;2016:5323256.
10. Shakeri J, Sadeghi Kh. Prevalence of Personality Disorders among the Hospitalized Patients at an Educational-Treatment Center in Kermanshah. *IJPCP* 2002;8(1):49-56.
11. Nouri H, Zarrinfar N, Salehi B. [Investigating the relationship between personality dimensions and AIDS in patients with HIV/AIDS]. *Arak J* 2014.
12. Heydari M. Relationship between resilience and mental disorders in AIDS patients in Bandar Abbas. 2018
13. Simoni JM, Safren SA, Manhart LE, Lyda K, Grossman CI, Rao D, et al. Challenges in addressing depression in HIV research: assessment, cultural context, and methods. *AIDS Behav* 2011;15(2):376-88.