

Original Article



Comparative Assessment of the Mental Health Status of HIV-Positive and HIV-Negative Intravenous Drug Users

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Abstract

Background: Intravenous (IV) drug use and human immunodeficiency virus (HIV) infection are closely associated and are among the major public health dilemmas worldwide. A considerable number of IV drug users are infected with HIV; this further adds to the risk of the occurrence of psychological disorders in these individuals. This study aimed to assess the mental health status of IV drug users with and without HIV infection.

Methods: This cross-sectional study was conducted on 270 IV drug users, 90 and 180 HIV-positive and HIV-negative cases, in Hamadan in 2019. The data were collected using general health questionnaire-28 (GHQ-28) and then analyzed by SPSS, version 15.

Results: Based on the results, HIV-negative IV drug users had a better mental health status in comparison to HIV-positive IV drug users, but this difference was not statistically significant ($P=0.072$). The assessment of GHQ-28 subscales revealed that the score of the social dysfunction subscale was significantly higher in HIV-positive subjects compared to HIV-negative cases ($P=0.004$).

Conclusion: It appears that the mental health status of IV drug users is suboptimal, and HIV infection can compromise the quality of life of addicts, particularly in terms of social function. Thus, designing strategies to improve the mental health status of IV drug users and their compliance with hygienic measures can promote public health.

Keywords: Addiction, AIDS, Mental Health, GHQ

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Introduction

Intravenous (IV) drug use and human immunodeficiency virus (HIV) infection are closely correlated and are considered as two major health dilemmas in the world. Both conditions are related to the occurrence of mental and psychological disorders. Depression is a common psychological disorder in IV drug users. A previous study showed that 73.8% of drug users suffered from various levels of depression (1). Another study demonstrated a higher prevalence of anxiety and crimes among substance abusers, especially heroin addicts compared to the general population (2). A number of psychological disorders are also observed in AIDS patients in different stages of the disease. Some of these disorders are caused by the virus itself, while some others develop as the consequence of patients finding out about their affliction or HIV-positive test results. Depression has been reported in HIV-positive patients during the asymptomatic stage of the disease, as well as the primary and middle stages of AIDS (3). It has been found that psychological problems increase as progress in the disease (4). Evidence indicates that addiction compromises the quality of life (QoL) depending on its severity, and IV drug use causes a greater reduction in the QoL (5). Finding out about HIV-positive test results further

aggravates depression and may result in suicidal thoughts. It can also negatively affect the social function and inter-individual relations of patients (6). Development of anxiety and depression after knowing about affliction with AIDS have been documented as well (7). Anxiety may become so severe as to cause post-traumatic stress disorder (8).

It has been shown that HIV-positive patients suffering from psychological disorders have poor adherence to anti-viral medications, and this often leads to a poor prognosis (9). Psychological disorders and their delayed diagnosis can decrease the compliance of IV drug users to follow hygienic and infection control measures, and subsequently, affect the transmission and prevalence of AIDS. This study sought to assess the mental health status of IV drug users with and without HIV infection.

Materials and Methods

The current cross-sectional study was performed on 270 IV drug users in Hamadan in 2019. *The sample size calculation was based on the Morgan table.* At the time of the study, there were 90 HIV-positive IV drug users receiving counseling services provided by Hamadan University of Medical Sciences in the Shohada Clinic, who were all in the form of a census



included in the study. Further, there were 450 HIV-negative IV drug users presenting to the university substance abuse rehabilitation centers; among them, 180 cases were randomly selected for participation in the study via simple random sampling. Initially, a list of all the population members was prepared, and then each member was marked with a specific number. *Individuals were selected using a random number table.* Those who did not consent to participate in the study were excluded from the investigation.

After clearly explaining the aim of the study, and the confidentiality of information for participants, all of them voluntarily took part in the study and gave informed consent.

The data were collected using General Health Questionnaire-28 (GHQ-28). The first part of the questionnaire included demographic information, and the second part contained GHQ-28 questions to assess the mental health status of IV drug users. This questionnaire, which was first introduced by Goldberg in 1972, has four subscales for the assessment of somatic symptoms, anxiety, social function, depression, and sleep disorders. It is available in different forms with 12, 28, 30, and 60 questions. The GHQ-28 with 28 questions is more commonly used and has a mean sensitivity of 84 and specificity of 82 based on a previous study (10).

This questionnaire is scored in four methods as C-GHQ scoring, modified Likert Likert-type scoring, and GHQ scoring.

The Likert-type scoring system with scores 0, 1, 2, and 3 was used in the current study. The highest score, which can be acquired, is 84 in this method with a cut-off point of 24 in subjects over 15 years of age according to a study by Noorbala and Yasamy (11). After signing written informed consent forms, IV drug users filled out the questionnaire. For the illiterates or those with low levels of literacy (an educational level below middle school), the questions were read out loud by a research team member, and their answers were recorded. The collected data were analyzed using SPSS, version 15. Quantitative variables, range of changes, standard deviation, mean, and *P*-values were all calculated, and the results of analyses were double-checked. *P* ≤ 0.05 was considered statistically significant. HIV-negative and HIV-positive IV drug users were matched in terms of age, gender, history of

IV drug use, and intake of psychedelic drugs.

Results

Of 270 IV drug users, 242 (96.4%) were males and 9 (3.6%) were females. The mean age of subjects was 33.4 ± 6.34 years (range 19-60 years). The mean age of the onset of IV drug use was 25.38 ± 7.1 years. In addition, 172 (66.4%) reported using psychedelic drugs, and 174 (67.2%) cases had a positive history of incarceration.

In terms of marital status, 86 (33.3%), 124 (48.1%), 34 (13.2%), and 14 (5.4%) cases were married, single, divorced, and separated, respectively. Regarding occupation, 49.2%, 46.1%, 3.9%, and 0.8% were businessmen, unemployed, employees, and students, respectively.

The evaluation of the mental health status of IV drug users revealed that 18.9% in the HIV-positive group had optimal mental health status. In the HIV-negative group, 30.6% had optimal mental health status; however, this difference was not statistically significant (*P* = 0.072). The comparison results of the two groups in terms of GHQ-28 subscales are presented in Table 1.

Based on the comparison of depression, social dysfunction, somatic symptoms, and anxiety and sleep disorder subscales, the score of social dysfunction was significantly higher in the HIV-positive group (*P* = 0.004, Table 2).

Discussion

The mental health status of IV drug users in this study was low, but in those who had HIV, the situation was more unfavorable than in HIV-negative cases. The results of this study are consistent with those of other studies (12-15). This public health problem such as HIV may affect the health, safety, and well-being of individuals. These effects can range from emotional reactions (e.g., stress or mental disorder) to unhealthy behaviors (e.g., IV drug use) and non-compliance with public health guidelines in people with the disease becoming common.

Addiction and AIDS negatively affect the QoL and impose a high burden on patients and the community. At present, with recent advances in science and technology, the survival rate and QoL of HIV-positive patients have represented a

Table 1. Mental Health Status of IV Drug Users Based on the Four Subscales of GHQ-28

	Depression		Social Dysfunction		Somatic Symptoms		Anxiety and Sleep Disorders	
	Number (%)		Number (%)		Number (%)		Number (%)	
Optimal	203 (78)		239 (92.3)		215 (83)		196 (75.7)	
Suboptimal	57 (22)		20 (7.7)		44 (17)		63 (24.3)	

Note. IV: Intravenous; GHQ: General health questionnaire.

Table 2. Comparison of HIV-positive and HIV-negative IV Drug Users Based on the Four Subscales of GHQ-28

	Depression				Social Dysfunction				Somatic Symptoms				Anxiety and Sleep Disorders			
	Yes		No		Yes		No		Yes		No		Yes		No	
	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage
HIV+	85	75.6	22	24.4	77	85.6	13	14.4	71	78.9	19	21.1	70	77.8	20	22.2
HIV-	65	76.5	20	23.5	83	97.6	2	2.4	74	87.1	11	12.9	63	74.1	22	25.9
Unknown	51	86.4	8	13.6	56	94.9	3	5.1	50	84.7	9	15.3	47	79.4	12	20.3

Note. IV: Intravenous; HIV: Human immunodeficiency virus; GHQ: General health questionnaire.

slight increase (16). The current results showed a significantly greater reduction in the social function of HIV-positive IV drug users compared to HIV-negative cases. The findings of a meta-analysis on IV drug users demonstrated a higher prevalence of depression and subsequently decreased social function in HIV-positive drug users in comparison to HIV-negative subjects (17).

In the present study, 49.2% and 46.1% of IV drug users were businessmen and unemployed, respectively. No significant association was noted between occupational status and mental health of subjects. However, Berger-Greenstein et al reported that unemployment was a risk factor for depression in IV drug users and negatively affected their QoL (18). Such a controversy in the results of the two studies was probably due to the differences in the definition of occupation and occupational safety in the two communities.

In the current study, there was no significant association between the marital status of IV drug users and their mental health, while Mello et al found higher odds of depression and decreased social function in single IV drug users compared to married cases (19). We encountered some problems in the assessment of the mental health status of IV drug users in this study. They mostly did not have adequate energy or interest to fill out the questionnaire, and the completion of the questionnaire had to be postponed in many cases. Moreover, in many cases, the researcher could not confidently rely on the accuracy of their answers. All these problems exhausted the research team and prolonged the course of study. Such obstacles have also been encountered in a previous study (20).

The results of this study should be interpreted in the light of a limitation. Self-reported data on the assessment of mental health status may introduce potential bias.

Conclusion

Based on the findings of the present study, the addition of HIV infection to IV drug use negatively affected the mental health of users and significantly compromised their social function. Thus, further studies are required to obtain more accurate information in this regard and find interventional strategies to improve the QoL of this group of patients.

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Authors' Contributions

AF conceived the idea; MM analyzed the data; AF drafted the article.

Conflict of Interests

The authors have no conflict of interests.

Ethical Permissions

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