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ORIGINAL PAPER

Lebanese People Living with HIV: Psychiatric Co-morbidities and Psycho-Social Environment

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Abstract

Data are lacking on the psychiatric and psycho-social profiles of Middle-Eastern people living with HIV (PLHIV). Our study aimed to establish the prevalence and correlates of mental illness in a sample of Lebanese PLHIV, and to delineate their socio-cultural reality. PLHIV, either attending a private ID clinic or a non-governmental organization, were interviewed. A total of 94 patients were included. Sixty-nine (73.4%) were found to have at least one psychiatric disorder. Only nine participants were currently receiving psychotropic medications. The most common diagnosis was major depression, occurring in half of the subjects. Homosexual or bisexual orientation predicted the presence of a current depression ($p = 0.024$), and ART status was negatively associated with current depression ($p = 0.028$). The rate of psychiatric disorders is clearly higher than that of the general population. PLHIV with a homosexual or bisexual orientation face a double stigma, perhaps making them more vulnerable to depression. Our findings need to be replicated in larger studies with more representative samples.

Keywords HIV · Psychiatry · Depression · Psychosocial factors · Sexual orientation · Middle East

Introduction

In spite of recording the lowest prevalence rate in the world (< 0.1%), infections with the human immunodeficiency virus (HIV) in the Middle East and North Africa (MENA) region, have been on the rise in the last decade (Gökengin et al., 2016; UNAIDS, 2020). In Lebanon, the cumulative total of HIV/AIDS cases, reported until the end of November 2018 to the National AIDS Program, reached 2366 (Lebanese Ministry of Public Health, 2019). Contrasting with this relatively low rate of HIV infections, almost all Middle Eastern countries have a higher mental disorder burden in comparison to the global level, with depressive disorders accounting for most disability-adjusted life years, followed by anxiety disorders (Charara et al., 2017).

A high co-morbidity between HIV infection and mental illness has been consistently described in the literature (Adams et al., 2016; Jallow et al., 2017; Niu et al., 2016), yielding a double stigma. This association is driven by a number of socio-cultural factors and their interaction. In fact, social discrimination is not only positively correlated with the development of mental illness (Freeman et al., 2007), but also acts as a barrier to disclosure of HIV status (Nachega et al., 2012). Non-disclosure decreases opportunities to receive social support (Freeman et al., 2007), which plays a protective role against depressive and anxiety symptoms (Serovich et al., 2001). Religiosity also weakens the positive association between stigma and depression (Lipira et al., 2019).

The contributions of viral central nervous system penetration, anti-retrovirals' neuropsychiatric side effects and

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impairment of daily life routine by a chronic illness (Arseniou et al., 2014; Freeman et al., 2007; Hasse et al., 2005; Scandlyn, 2000; Turjanski & Lloyd, 2005) on the development of mental illness in PLHIV have been well explored and are without a doubt universal. However, socio-cultural and religiosity findings from Western studies cannot be generalized to Middle-Eastern societies who considerably lack research in this area (Karamouzian et al., 2016). Much shame and stigma are associated with the HIV diagnosis in this very conservative area of the world, where practices associated with viral transmission are in violation of the social, moral and legal codes (Kaplan & El Khoury, 2016). In fact, in Middle Eastern countries, sexuality is still a taboo, homosexuality rarely accepted by the society and even illegal in some countries, and substance use more attributable to delinquency than to psychiatry.

To our knowledge, no previous surveys have studied mental disorders in Middle-Eastern PLHIV, or tried to delineate their religious and socio-cultural reality, encompassing disclosure, social support and discrimination. To address this gap in the literature, we examined the characteristics of a sample of Lebanese PLHIV. Our aims were threefold: (i) to determine the prevalence of mental disorders in this population (ii) to examine unique socio-cultural aspects and challenges associated with seropositivity (disclosure, social support, discrimination) (iii) to search for possible associations between mental illness and religiosity, socio-demographic, psycho-social and disease related variables. We hypothesized that mental illness in Lebanese PLWHIV is high in prevalence, under-treated, and correlated with socio-cultural parameters.

Methods

Study Design

This is a cross-sectional descriptive survey, studying the psychiatric and psychosocial profiles of HIV-positive patients, attending a private ID clinic and a non-governmental organization in Beirut: Anwar Al Mahabba. Data collection took place between November 2014 and June 2016.

Study Population

The population recruited was a sample of convenience. HIV positive patients attending Anwar Al Mahabba and a private ID clinic were contacted by phone by an NGO employee and their attending physician (J.M.) respectively. The study objectives were briefly explained. Those willing to participate in the study were given an appointment.

We included confirmed Lebanese HIV positive individuals. Excluded individuals were those younger than 18 years or presenting cognitive dysfunction with a MMSE < 24.

The Mount Lebanon Hospital Ethical committee approved the study (PSY-2015-001). A written informed consent was obtained from all participants.

Study Questionnaire

The individuals were first interviewed for retrieval of socio-demographic data, including age, sex, education, occupation, employment status, the insurance coverage as well as sexual orientation, marital status, living arrangement and locality.

The course of the disease in each individual and pattern of anti-retroviral treatment (ART) were explored. The percentage of HIV-related symptoms experienced in the last 6 months was calculated in relation to a total of 12 symptoms for men and 13 symptoms for women (Bing et al., 2001).

The psychiatric interview included a brief history-taking. This was followed by a screening of current psychiatric disorders (except hypomania/mania and psychotic disorders), using the mini international neuropsychiatric interview (MINI) (Sheehan et al., 1998). It was administered in its Arabic version by a psychiatry resident or trained medical students. Psychotropics' use, past and present, was defined as belonging to one of four categories (antidepressants, antipsychotics, anxiolytics and hypnotics/sedatives).

The perceived effect of formal support (pre and post-test voluntary counseling) was assessed as either "very helpful", "somewhat helpful" or "distressing". Disclosure of HIV status was also evaluated as well as its degree and viewed consequences. The perceived social support was graded as absent, minimal, moderate or high, and classified as emotional, informational, instrumental, or any combination of the former. Six potential areas of discrimination were explored: society members, family members, partner/spouse, healthcare access, employment and visa approval by asking a series of questions, such as: "Have you ever been avoided by members of the society due to your HIV status?; Have you ever lost contact with a family member, a friend due to your HIV status?; Have you ever lost a spouse/partner due to your HIV status? Were you accused of infidelity or were you the victim of violence by your spouse/partner after disclosure of your HIV status?" as well as questions on healthcare, visa approval and employment.

The religious perspective on the disease was explored by asking whether participants believe that HIV is a punishment from God. Level of religiosity was identified using a 5-items questionnaire validated on the Lebanese population (Khalaf et al., 2014).

Statistical Analysis

Descriptive statistics were presented as mean with standard deviation for quantitative variables, and counts and percentages for categorical variables. The prevalence of 'any psychiatric diagnosis' was compared based on socio-demographic, religiosity, psycho-social and disease related variables using t-tests or unequal variance t-tests (if the null hypothesis of equality of variances was rejected by the F-test) for continuous variables, or chi-square tests for categorical variables (or Fisher exact test in case of low counts).

The same comparisons were run for 'MDE present', 'lifetime MDE' and 'current GAD'. STATA version 12 software was used for statistical analysis.

Results

Socio-Demographic Profile

A total of 94 PLHIV met the inclusion criteria. Four individuals were excluded for scoring less than 24 on the MMSE. The mean age was 40.7 (SD 11.1), and 92% were men. The rest of the socio-demographic characteristics of the sample are summarized in Table 1.

Table 1 Socio- demographic characteristics

	N (%)
Education	
Illiterate	5 (5.3)
< High school	28 (29.8)
School graduate	19 (20.2)
College graduate	42 (44.7)
Employment	
Student	1 (1)
Not working	41 (43.6)
Working part-time	12 (12.8)
Working full-time	40 (42.6)
Sexual orientation	
Heterosexual	45 (47.9)
Homosexual/bisexual	49 (52.1)
Marital status	
Single	55 (58.6)
Married	21 (22.3)
Divorced/widowed	18 (19.1)
Living arrangement	
Homeless	0 (0)
Living alone	22 (23.4)
Living with a partner/spouse/friends	20 (21.3)
Living with parents or other relatives	52 (55.3)
Insurance coverage	
Self-payer	19 (20.2)
Ministry of Health	4 (4.3)
NSSF	10 (10.6)
NGO	61 (64.9)

Disease Profile

Sexual transmission was the most frequent source of infection, and most of the interviewees (n = 60; 63.8%) were asymptomatic. The mean time since diagnosis was 9.4 years (SD 7.5). The majority (n = 89) of the participants were receiving ART. The disease profile of the participants is summarized in Table 2.

External Factors

Only nine patients (9.6%) received counseling prior to HIV testing, with only one (11.1%) of them reporting ensuing distress.

Eighty-nine participants (94.7%) reported disclosing their HIV status. Social support was perceived as high in 38 participants (42.7%), with equal rates of moderate, low and no support (n = 17; 19.1%). Our data indicate that an important part of our population (n = 61; 64.9%) has suffered from at least one form of discrimination.

Almost half of our participants (n = 46; 49%) displayed a high level of religiosity. The rest of the external factors are summarized in Table 3.

Psychiatric Diagnosis

During the studied period, an ongoing major depressive episode (MDE) was recorded in 15 participants (16%), whereas a past history of MDE was observed in 40 (42.6%). The prevalence of a lifetime MDE was 51%, with the mean number of episodes being 1.92.

Sixteen of the participants (17%) had attempted suicide at least once in their lives, with more than half of them (9; 56.2%) after receiving the HIV diagnosis. Almost ten percent of the participants presented at the time of the interview low suicidal risk, 1% moderate risk, and 9.6% severe risk.

Seventy three percent (n = 69) of the participants were diagnosed with at least one psychiatric disorder, the majority of whom were not using any psychotropic drugs at the time of the interview (n = 85; 90.4 %), or have never used one (n = 65; 69.1%). The rest of the psychiatric profile of the participants is summarized in Table 4.

Table 2 Disease profile

	N (%)
Source of infection	
Heterosexual transmission	40 (42.5)
Homosexual transmission	20 (21.3)
Vertical transmission	0 (0)
Injection drugs	4 (4.3)
Blood products	9 (9.6)
Unknown	21 (22.3)
Presence of symptoms	
Asymptomatic	60 (63.8)
Symptomatic	34 (36.2)
Number of symptoms	
1	16 (17)
2	8 (8.5)
3	5 (5.3)
4	0 (0)
5	2 (2.1)
6	3 (3.2)
Reason for performing the HIV dx test	
High risk behavior	21 (22.3)
Symptom development	39 (41.5)
Compulsory on VISA application	15 (16)
At the request of the job employer	4 (4.2)
Other (blood donation, marriage…)	15 (16)
ART status	
Not receiving ART	5 (5.3)
Receiving ART	89 (94.7)
Duration of ART	
< 2 years	16 (18)
> 2 years	73 (82)
Compliance	
Poor	8 (8.8)
Good	83 (91.2)
CD4 count	
< 200	11 (11.8)
200–350	20 (21.5)
350–500	22 (23.7)
> 500	40 (43)

Analytical Results

We found that individuals with a homosexual or a bisexual orientation were more likely to be diagnosed with current MDE in comparison to those with a heterosexual orientation (24.5% vs 6.7%; p = 0.024). Additionally, a current depression was negatively associated with taking ART (p = 0.028).

Both lifetime MDE and 'any psychiatric diagnosis' were associated with the number of HIV symptoms (p = 0.022 and 0.003 respectively). We also found a positive association between believing that HIV is a punishment from God

Table 3 External factors

	N (%)
Pre-counseling	
No	85 (90.4)
Yes	9 (9.6)
Post-counseling	
No	53 (56.4)
Yes	41 (43.6)
Degree of disclosure	
One or more people know	83 (93.3)
Fully open	6 (6.7)
Effect of disclosure	
Very helpful	44 (49.4)
Somewhat helpful	30 (33.7)
Distressing	15 (16.9)
Perceived social support	
No support	17 (19.1)
Minimal support	17 (19.1)
Moderate support	17 (19.1)
High support	38 (42.7)
Social support received from…	
Spouse/Partner	11 (14.3)
Family	32 (41.5)
Friends	15 (19.5)
Spouse/partner + Family	2 (2.6)
Spouse/partner + Friends	2 (2.6)
Family + Friends	11 (14.3)
Spouse/partner + Family + Friends	4 (5.2)
Nature of support	
Emotional	37 (47.4)
Instrumental	8 (10.3)
Informational	0 (0)
Combination	33 (42.3)
Death of significant other due to HIV	
No	77 (81.9)
Yes	17 (18.1)
Presence of discrimination	
No	33 (35.1)
Yes	61 (64.9)
Discrimination by a society member	
No	73 (78.5)
Yes	20 (21.5)
Discrimination by a spouse/partner	
No	76 (81.7)
Yes	17 (18.3)
Discrimination by family/friends	
No	72 (77.4)
Yes	21 (22.6)
Discrimination by the healthcare system	
No	77 (82.8)
Yes	16 (17.2)

Table 3 (continued)

	N (%)
Discrimination in employment (fired or denied)	
No	70 (74.5)
Yes	24 (25.5)
Discrimination by visa denial	
No	68 (72.3)
Yes	26 (27.7)
Belonging to a HIV Support Group	
No	71 (75.5)
Yes	23 (24.5)
Religiosity	
Low	16 (17)
Moderate	32 (34)
High	46 (49)
Faith effect	
Distressing	1 (1.06)
Somewhat helpful	35(37.2)
Very helpful	58 (61.7)
HIV as punishment from God	
No	71 (75.5)
Yes	23 (24.5)

and lifetime MDE ($p = 0.007$), and a borderline association between 'any psychiatric diagnosis' and marital status ($p = 0.05$).

No significant associations were observed between the presence of any psychiatric diagnosis, including lifetime MDE, current MDE, current GAD and other socio-demographic, disease related or external factors. Significant associations are further illustrated in Table 5.

Discussion

This paper is a benchmark study in the Middle East, and sheds light for the first time on the mental health of Lebanese PLHIV. We found that most of our participants (73.4%) suffer or have suffered from at least one psychiatric disease, with major depression recorded as the most common lifetime diagnosis. Despite these high rates, only 31% of the participants had been treated in the past, and a smaller proportion was currently treated (9.6%). We also found low rates of pre and post-test counseling and high rates of discrimination (64.9%). Current major depression diagnosis was positively associated with sexual orientation and negatively associated with taking ART. Lifetime depression was positively associated with number of HIV symptoms and believing that HIV is a punishment from God. 'Any psychiatric diagnosis' (depressive, anxiety or substance use disorder) was positively associated with number of HIV symptoms and

Table 4 Psychiatric disease

	N (%)
Mood disorders	
MDE present	15 (16)
MDE before diagnosis only	6 (6.5)
MDE past	40 (42.6)
Lifetime MDE	48 (51)
Dysthymia	8 (8.6)
Panic disorder	
Present	6 (6.4)
Lifetime	11 (11.7)
Subsyndromal	4 (4.3)
Agoraphobia	
Present	6 (6.4)
Past	5 (5.3)
Social phobia	
Present	8 (8.5)
Past	4 (4.3)
OCD	
Present	8 (8.5)
Past	8 (8.5)
PTSD	
Present	0 (0)
Past	7 (7.5)
AUDIT score interpretation	
Normal	73 (77.7)
Medium level alcohol problems	15 (16)
High level alcohol problems	5 (5.3)
Suggestive of dependence	1 (1.1)
Alcohol abuse	
Present	1 (1.1)
Past	13 (14.1)
Alcohol dependence	
Present	1 (1.1)
Past	13 (14)
Substance abuse	
Present	1 (1.1)
Past	11 (11.7)
Substance dependence	
Present	1 (1.1)
Past	13 (13.8)
Polysubstance use	
No	5 (41.7)
Yes	7 (58.3)
Substance of abuse	
Cannabis	4 (33.3)
Stimulant	3 (25)
Opiate	3 (25)
Hypnotics	1 (8.3)
Other	1 (8.3)
Substance of dependence	
Cannabis	5 (35.7)

Table 4 (continued)

	N (%)
Stimulant	3 (21.4)
Opiate	4 (28.6)
Hypnotics	2 (14.3)
Other	0 (0)
Anorexia nervosa	
Present	1 (1.1)
Past	0 (0)
Anorexia binge eating/purging type	
Present	0 (0)
Past	0 (0)
Bulimia nervosa	
Present	6 (6.4)
Past	1 (1.1)
GAD	
Present	14 (14.9)
Past	5 (5.3)
Somatization disorder	
Present	3 (3.2)
Past	0 (0)
Hypochondriasis	
Present	1 (1.1)
Body dysmorphic disorder	
Present	1 (1.1)
Pain disorder	
Present	0 (0)
In the presence of a physical illness	4 (4.3)
Any diagnosis	69 (73.4)
Past psychotropic use	
None	65 (69.1)
Antidepressants	9 (9.6)
Antipsychotics	0 (0)
Anxiolytics	3 (3.2)
Hypnotics and sedatives	17 (18.1)
Current psychotropic use	
None	85 (90.4)
Antidepressants	4 (4.3)
Antipsychotics	0 (0)
Anxiolytics	2 (2.1)
Hypnotics and sedatives	3 (3.2)

negatively associated with married status. Contrary to our expectations, no associations were found with socio-cultural factors including disclosure, social support, religiosity and discrimination.

The considerably high prevalence of any psychiatric disease in our population (73.4%) is three times higher than the prevalence found in the general Lebanese population (25.8%) (Karam et al., 2008). More alarming was the rate of attempted suicide recorded in our sample (17%), especially in comparison to the 0.72 % rate found among the Lebanese general population (Weissman et al., 1999). Despite the contrast with general Lebanese population, the prevalence rate of current MDE in our sample was comparable to rates found in Southeastern US (16%) (Pence et al., 2006), Uganda (17.4%) (Akena et al., 2012), and South Africa (14%) (Myer et al., 2008).

In fact, despite the relatively high prevalence of current depressive and anxiety disorders in our sample, only 4.3% of our participants are using antidepressants. In the United States, the use of antidepressants and anxiolytics reached 43.3% in the year prior to the survey (Pence et al., 2006). In a similar fashion, 59.6% of HIV infected Danish patients used psychotropics, with antidepressants having the highest utilization rate (30.2%) (Rasmussen et al., 2014). Mental disease stigma superimposed on HIV-related stigma cannot account alone for this large discrepancy. Our study findings reflect an unmet need for treating psychiatric disease, a concern that was raised by the WHO in 2004 (Demyttenaere et al., 2004) and was identified in the Lebanese population where there was a delay in recognition and treatment of mental disease (Karam et al., 2008). This is particularly important for suicidality, whose higher prevalence in our sample can be explained by the elevated rates of untreated depression, anxiety, past substance and alcohol use disorders (Passos et al., 2014).

Contrary to our hypothesis, no associations were found with socio-cultural factors. This lack of association could be related to our small sample size, or to the complexity of these variables. For instance, we did not study the frequency of discrimination nor its practical consequence on the participant's life. Also, while religiosity has been found to be protective against depression, it can result in guilt and worsen depression, as is suggested by the positive association between lifetime MDE and believing HIV is a punishment from God (Lipira et al., 2019). Disclosure can either result in support or in further discrimination.

While high degree of support was perceived by 38 individuals in our sample (42.7%), 17 individuals reported moderate support and 17 others minimal support. As expected, family was the main source of support, followed by friends. In fact, strong familial bonds are the backbone of the Lebanese society, and the cultural context permits adults to stay at their parent's home at least until they start their own family. Additionally, in Lebanon, as it is the case in most of the developing countries, families are the primary caregivers in case of illness. A greater need for disclosure to family members might alternatively entail a high rate of discrimination from them (22.6%). While a previous study on a Lebanese sample of PLHIV showed a low stigma score (Abboud et al., 2010), discrimination was found highly prevalent in our sample, with 61 individuals (64.9%) being subject to any form of discrimination. Individuals with homosexual or

Table 5 Statistically significant associations

Variables	Current MDE		p-value
	No	Yes	
ART status			
Not receiving	2 (40%)	3 (60%)	0.028
Receiving	77 (86.5%)	12 (13.5%)	
Sexual orientation			
Heterosexual	42 (93.3%)	3 (6.7%)	0.024
Homosexual/bisexual	37 (75.5%)	12 (24.5%)	
Variables	Any psychiatric diagnosis		p-value
	No	Yes	
Number of HIV symptoms	Mean (SD) 0.28 (0.61)	Mean (SD) 0.99 (1.59)	0.003
Marital status			
Single	12 (21.8%)	43 (78.2%)	0.05
Married	10 (47.6%)	11 (52.4%)	
Widowed/divorced	3 (16.7%)	15 (83.3%)	
Variables	Lifetime MDE		p-value
	No	Yes	
Number of HIV symptoms	Mean (SD) 0.46 (1.13)	Mean (SD) 1.13 (1.61)	0.022
Believing HIV is a punishment from God			
No	41 (57.7%)	30 (42.3%)	0.007
Yes	5 (22.7%)	17 (77.3%)	

bisexual orientation often face double stigma, which most probably accounts for the association with current MDE (Mays & Cochran, 2001; Rueda et al., 2016).

We found a very low rate of individuals who received pretest counseling (9.6%), albeit the wide availability of counseling centers reported in the Lebanon Narrative Report (> 110 across Lebanon) ("VCT booklet-National AIDS Control Program in Lebanon," n.d.). This raises the question of awareness among individuals with high-risk behavior of the presence of Voluntary counseling and Testing (VCT) and whether the VCT approach in Lebanon is able to reach out for high-risk individuals early on, both for prevention and early detection. In reality, early detection seems to be limited in Lebanon, especially that twice as much individuals of our sample (41.5%) had performed HIV testing after developing HIV-related symptoms rather than because of their high-risk behavior (22.3%).

Our study population is a convenience sample. Thus, notwithstanding the validity of our results, it is unlikely to be representative of the general HIV population in Lebanon. The sample might over-represent older age groups (> 30 years of age), while the sex distribution is quite similar to that of the general Lebanese PLHIV. Nevertheless, a stratified analysis could have revealed potential gender differences in outcomes, but was not possible due to the sample size. In addition, the response rate could not be assessed since the patients were contacted by either the ID physician or an NGO member, for the purpose of confidentiality. Thus, patients who refused to be interviewed are possibly those suffering from more severe stigma, discrimination and associated psychiatric co-morbidities. Hence, a selection bias cannot be excluded. The sample size, although fairly important in relation to the Lebanese population, has limited the study of important associations. Finally, the interview lacked screening for schizophrenia and bipolar disorders, two important and severe mental conditions.

Conclusion

In summary, the findings of this paper raise serious concern over the Lebanese mental health policies for this vulnerable sub-population. Regrettably, despite awareness campaigns, a rigorous national program and deep NGO involvement, discrimination and stigmatization prevail and the Lebanese society still ostracizes PLHIV. Since depression was the most prevalent diagnosis, we suggest that clinicians systematically evaluate their patients for mood symptoms and

for suicidal thoughts and refer high risk patients. Healthcare providers should also give more attention to homosexual or bisexual sero-positive individuals, and emphasize the use and compliance to ART medication. Surely, further research is needed with a larger sample size, in order to thoroughly study associations between mental illness and HIV-related and socio-cultural risk factors.

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Data Availability The data that support the findings of this study are available on request from the corresponding author SAK. The data are not publicly available due privacy and ethical restrictions.

Declaration

Conflict of interest The authors declare that they have no conflict of interest.

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