RESEARCH ARTICLE

DEPRESSION, ANXIETY AND STRESS AMONG HIV PATIENTS IN EAST COAST MALAYSIA

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ARTICLE INFO

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ABSTRACT

Introduction: HIV infection is a chronic disease with multiple challenges that could affect the psychological well-being of patients. *Objective:* The objective of this research was to determine the prevalence of depression, anxiety and stress among HIV patients and its significant associated factors. *Methodology:* This is a cross-sectional study which was carried out in two health centers in a town in the East Coast of peninsular Malaysia. A total of 42 patients with HIV were recruited via convenience sampling. Those who fulfilled the inclusion and exclusion criteria completed a validated set of Malay version of DASS-21 questionnaire. Data was analyzed using IBM SPSS Statistics. *Results:* The prevalence of depression, anxiety and stress among adult HIV patients in community follow-up were 33.3%, 28.6% and 21.4% respectively. Marital status was significantly associated with both depression and stress. While CD4 count was found to be significantly associated with anxiety.

INTRODUCTION

Patients who are diagnosed with Human immunodeficiency virus (HIV) could be affected psychologically. HIV is a lifelong disease that necessitates a patient to be compliant with multiple medications. It is also a disease well known for its social stigma. However, there are many other reasons that may lead to psychological disorder such as the adverse effects of antiretroviral drugs (Dubé *et al*., 2005) or the serostatus of the patient (Kelly *et al*., 1998). The most common psychological disorder that are usually under diagnosed is depression. As a result, the repercussions of mental illness on HIV patients may raise several issues such as HAART compliance, defaulted follow up and deteriorating quality of life that eventually leads to increase in mortality rate (Simoni *et al*., 2011). In Malaysia, with the initiation of comprehensive treatment cascade such as the screening process, Human Anti-Retroviral Therapy (HAART) treatment and continuous follow up for viral load suppression with CD4 count had achieve great achievement in reducing half the case of HIV infected patient (MOH, 2016). This is evidenced by 22 cases per 100,000 population in 2010 reducing to 11.2 cases per 100,000 population in 2014 (MOH, 2016).

However, there are still approximately 3517 of Malaysians infected with HIV In the year 2014, and there might be a significant number of them who are inflicted with a degree of psychological illness. According to the Malaysian National Health and Morbidity Survey, the prevalence of psychological illness was 11% in a normal population. Despite the worrying prevalence of this psychological illness, it is often missed in the primary care setting leading to difficulties for physicians to provide an optimal management of the disease to their patients (Simoni, 2011).

MATERIALS AND METHODS

Ethical consideration: Ethical approval was obtained from Ethical Committee of Kuliyyah of Medicine, International Islamic University Malaysia [IREC 2017-010] and Medical Research and Ethics Committee, Ministry of Health Malaysia [NMRR-17-746-35329].

Study design, population and sampling method: A cross-sectional study were conducted in two health clinics in Kuantan, Malaysia. We included adult HIV patients that were on highly active anti-retroviral therapy (HAART) and who understood Malay.

The study was conducted over a period of 6 weeks from 17th July 2017 to 27th August 2017. Patients were recruited using convenience sampling.

Study tool: This study used a self-administered questionnaire which consisted of three parts. Part A: socio-demographic information of the patient, Part B: Malay version of the Depression, Anxiety and Stress Scale 21-item (DASS-21), Part C: related medical records of the patient.

Patient's informed consent form were attached together with the questionnaire. Depression, Anxiety and Stress Scale 21-item (DASS-21) is a self-reporting tool which measures three related negative emotional states, which are depression, anxiety and stress. Each components has a different scoring and cut-off value. Among the advantages of DASS-21 Bahasa Melayu version is that it can be administered to both clinical and non-clinical subjects while also possessing good psychometric properties for clinical subject (Musa, 2009). This questionnaire is simple and easy to be administered and has been widely used in Malaysia (Musa, 2012).

Statistical Analysis: The statistical analysis was performed using software IBM SPSS Statistics for Windows, Version 23.0. Descriptive statistics were performed for all demographic factors and related medical records. While bivariate analysis was done to study the relations between variables.

RESULTS

A total of 42 patients with HIV were recruited in this study. Majority of the respondents were male, Malays, married, living with partner/family, with secondary school level of education and belonging to the low monthly household income group (< RM 1000 per month). The mean age for the respondents were 40 years old. Majority of the respondents' had CD4 count more than 350 cells per mm^3 with undetectable viral load. Majority have other medical co-morbidities and are on less than 5 types of medications. Table 1 shows the characteristics of the HIV patients.

Prevalence of depression, anxiety and stress: The prevalence of depression, anxiety and stress among adult HIV patients on HAART were 33.3%, 28.6% and 21.4% respectively. From this, less than 10% were found to be from the extremely severe subscale for each group (7.1%, 9.5% and 2.4% respectively).

Relationship of sociodemographic characteristics and related medical records of the respondents with depression, anxiety and stress level: Patients' data were analysed using the chi-square test to determine the relationship of sociodemographic characteristics and related medical records of the respondents with depression, anxiety and stress levels as shown in Table 2, 3, 4. Marital status was significantly associated with both depression and stress. While CD4 count was found to be significantly associated with anxiety.

DISCUSSION

The prevalence of depression in this study was 33.3% which was comparable with studies done in another part of Malaysia

Table 1. Socio-demographic characteristics and related medical records of the respondents (n=42)

Variables	N	(%)
Age (years)	40.62	(11.00)*
Gender		
Male	30	(71.4)
Female	12	(28.6)
Marital status		
Married	20	(47.6)
Single	13	(31)
Widow/widower	9	(21.4)
Living arrangement		
Alone	5	(11.9)
With partner/family	36	(85.7)
With friends	1	(2.4)
Religion		
Islam	40	(95.2)
Buddhist	2	(4.8)
Ethnicity		
Malay	40	(95.2)
Chinese	2	(4.8)
Highest education level		
Primary	4	(9.5)
Secondary	21	(50.0)
Tertiary	17	(40.5)
Occupation		
Professional	12	(28.6)
Supporting staff	11	(26.2)
Part-time worker	6	(14.3)
Housewife	5	(11.9)
Retiree	1	(2.4)
Student	1	(2.4)
Not working	6	(14.3)
Monthly household income		
≤ RM 1000	21	(50.0)
RM 1001- RM 1500	3	(7.1)
RM 1501- RM 2000	4	(9.5)
RM 2001- RM 2500	4	(9.5)
RM 2501- RM 3000	1	(2.4)
≥RM 3000	9	(21.4)
CD4 count (cells per mm^3)		
≤ 350	18	(42.9)
> 350	24	(57.1)
Viral load		
Undetectable	24	(57.1)
Detectable	14	(33.3)
Comorbidities		
No	14	(33.3)
Yes	28	(66.7)
Number of medications		
< 5	29	(69.0)
5-10	13	(31.0)

Table 2. Relationship of socio-demographic characteristics and related medical records of the respondents with depression level

Variables	Yes		No		P-value
	n	%	n	%	
Marital status					
Married	7	(35.0)	13	(65.0)	**0.008**
Single	7	(53.8)	6	(46.2)	
Widower	0	(0)	9	(100)	

Table 3: Relationship of socio-demographic characteristics and related medical records of the respondents with anxiety level

Variables	Yes		No		P-value
	n	%	n	%	
CD4 count (cells per mm^3)				(50.0)	0.048
≤ 350	9	(50.0)	9	(83.3)	
>350	4	(16.7)	20		

Table 4. Relationship of socio-demographic characteristics and related medical records of the respondents with stress level

Variables	Yes		No		P-value
	n	%	n	%	
Marital status					
Married	2	(20.0)	18	(90.0)	
Single	6	(46.2)	7	(53.8)	0.007
Widower	0	(0)	9	(21.4)	

and Korea (Radzniwan *et al.*, 2016; Kee *et al.*, 2015). Interestingly, it was lower than the studies in China, South Africa, Australia and Sudan in which their prevalence of depression was in the range of 41% to 63% (Li *et al.*, 2016; Elbadawi, 2017; Heywood, 2016; Freeman *et al.*, 2014). The differences could be because of the different tools used and the different factors in their population. When we compared head-to-head with a study done in the northern part of this country, we found that the prevalence of depression and stress in our study (33.3%, 21.4%) is similar with theirs (36.9%, 26.7%). However, the prevalence of anxiety is much higher (45.1%) in their study as compared to ours (28.6%) (Radzniwan *et al.*, 2016). The prevalence of their participants in the extremely severe group for depression, anxiety and stress were also higher as compared to our study. While only less than 10% of our patients were in the extremely severe group for depression, anxiety and stress; they reported extremely severe depression and anxiety as high as 14.5% and 26.9% respectively (Radzniwan *et al.*, 2016).

The main difference between the studies is that their participants were patients under follow-up at the hospital while our participants were under community health clinics follow-up. Usually the patients treated in the community are less ill and have more straight-forward treatment.In our study, being single is significantly associated with both depression and stress. This concurred with a study in Iran which also found that depression is higher in the single (married, widowed and divorced) women (Saadat *et al.*, 2015). This could be because of the poor support that patients receive. In a study done in Australia, it was found that social support was a protective factor. And among all the supports that they studied, emotional support was the most significant in reducing psychological problems (Heywood, 2016). So, emotional support from partners or spouse acts as a buffer against the stress that being a patient with HIV can bring (Saadat *et al.*, 2015). But interestingly in Korea and Sudan, they found that their patients who were married or currently living with someone were more likely to have anxiety and depressive symptoms than those who were single. It was found that patients who were infected by their spouse or partners are highly affected psychologically as well has decreased sexual desire (Kee *et al.*, 2015; Saadat *et al.*, 2015). This study found a significant relationship between CD4 count with anxiety level. Patients with higher CD4 count (>350) had lower anxiety level as compared with patients with lower CD4 count. This corresponds with a research in Australia where they also reported significant association between CD4 count and anxiety. CD4 count is an important laboratory indicator of a person's immune function and is a predictor for HIV disease progression. A lower CD4 count correlate with more HIV associated illnesses and poorer quality of life.

Conclusion

There are presence of depression, anxiety and stress among HIV patients on community follow-up. There are even a small

but important percentage of them who were suffering from extremely severe depression.

We found that marital status and CD4 count were significantly associated with depression, anxiety and stress. Hence, early detection of the disorders and providing proper psychiatric management for HIV patients is important to ensure the quality of life of these patients.

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