International Journal of Humanities Social Sciences and Education (IJHSSE)
Volume 5, Issue 10, October 2018, PP 57-66
ISSN 2349-0373 (Print) & ISSN 2349-0381 (Online)
http://dx.doi.org/10.20431/2349-0381.0510007
www.arcjournals.org

Assessment of Depression in People Living with HIV in Albania; the influence of Demographic Data, Adherence and Sexual Desire in Depression

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Abstract:

Background: *Depression is one of the most frequent mental health problems reported in persons living with HIV. HIV illness and depressive symptoms have very similar characteristic these make that depressive symptoms in people living with HIV perhaps are more or less reported as a result of somatic features of HIV. There are no date are regarding the prevalence of depression in people living with HIV.*

Objectives: *This study was undertaken to provide comprehensive understating about depression in people living with HIV in Albania and factors that influence depression.*

Material and Methods: *A descriptive cross sectional study was conducted in outpatient clinic of people living with HIV in Albania. Two hundred sixty four patients were interviewed about depression, adherence, sexual activity and sexual desire. Patient Health Questionnaire is used as depression assessment tools, Case Index of Adherence is used to measure adherence, Sexual Desire Inventory to measure the sexual desire and AMIS questionnaire (Emory University Instrument) to measure sexual behaviors. The data collected was analyzed using SPSS software and Medcalc software.*

Results: *The prevalence of depression according to the Patient Health Questionnaire-9 rating scale reported that "depressive symptoms" prevail 35.6% of participants, followed by "mild depression" 32.2%. In the group with" low adherence in therapy" is reported higher percents of "moderate depression" 52.5% and "severe depression" 45.8% compare to group with "good adherence in therapy" respectively 23% and 8.3%. The study found that "residence in urban area"; "perceived HIV as disability"; "monthly income"] 500.000-500.000]";" having sex in the last 12 months"; "good adherence in therapy"; and "sexual desire" are protective factors from depression.*

Conclusion: *In light of the high prevalence of depressive symptoms in people living with HIV and 85.2% involved in the sexual activities over the last 12 months, these findings underscore the need for assessment for depression should be integral part of the routine HIV care in outpatient clinic.*

Keywords: *Acquired Immune Deficiency Syndrome, Depression, Adherence, Sexual Behaviors, Sexual Desire*

1. INTRODUCTION

In this cross–sectional study, we investigated prevalence of depression using Patient Health Questionnaire-9 among 264 people living with HIV in Albania, aged over 15 years old. Over the past 12 months, 85.2% were involved in sexual behavior out of which 76.4% were male and 23.6% were female. The socio demographic characteristic; adherence and sexual desire are analyzed as factors that have a predictive role in depression. The depressive symptoms prevail in 35.6% of the study sample. The CD4 value has significant relationship with depression rating scale of PHQ-9 tool. The "residence in urban area"; "perceived HIV as disability"; "monthly income"]500.000-500.000]";" having sex in the last 12 months"; "good adherence in therapy"; and "sexual desire" are predictive factor for depression.

According to World Health Organization, (2015) depression is a frequent and serious medical illness that negatively affects how we feel the way we think and how we act. Depression causes feelings of sadness and loss of interest in activities once enjoyed. It can lead to a variety of emotional and physical problems and can decrease a person's ability to function at work and at home. All over the

world, an estimated 300 million people are affected by depression. More women are affected than men. Depression is described by Diagnostic and Statistical Manual of Mental as "clinical development that is characterized by one or more Major Depressive Episodes and can attack person at any age", although it typically occurs in the middle of twenty. Depression is connected with a high risk of mortality, lower reported quality of life, and increased risk in amount of high-risk behaviors. The prognosis is even poorer for those who have a Major Depressive Disorder and a chronic or severe medical condition.

Human Immunodeficiency Virus is a virus that breaks down the body's immune system, thus, weakening the body's defense to illness and disease and Acquired Immune Deficiency Syndrome (AIDS) develops as the immune system is severely damaged by spread of the virus. HIV/AIDS remains a worldwide public health challenge, particularly in countries with restrain resources. The World Health Organization (WHO) estimated that 36.9 million people living with HIV, at the end 2017, of whom 1.8 million were newly infected and 940.000 deaths were registered in the same year. In 2017, 21.7 million people living with HIV were receiving antiretroviral therapy globally.

Based on, the nation report of HIV/AIDS (2017), until November 2017, 1090 was diagnosed cases with HIV in Albania, while projections estimate that the number of people with HIV/AIDS in Albania is 1500 (UNAIDS, SPECTRUM 2016).This is the attribute to the high stigma associated with the disease and associated risk factors such as homosexuality; unprotected sex with many partners; low degree of awareness among highly vulnerable group which reduce the voluntary testing. The HIV prevalence is less than 0.04% (population according to Census 2011). Institute of Public Health (2017), reported 881 people living within Albania, at the end of 2017, of which 81 were newly infected. The sexual way continues to predominate in 95% of cases as the main way of getting HIV; 82.6% heterosexual and 12.4% homosexual. As a consequence, the Albania has still low incidence and prevalence, the risk of an epidemic is quite significant and underlying that sexual route is main way of contracting HIV. In 2017, 509 people living with HIV were receiving antiretroviral.

Studies recommended that depressive symptoms are more frequent in people living with chronic diseases, such as HIV/AIDS; the Kalichman et al study found that depressive symptoms in people living with HIV perhaps are more reported or less reported as a result of somatic features of HIV. HIV illness and depressive symptoms have very similar characteristic, many studies report that persons living with HIV have more chance to be depressed. Depression is one of the most frequent mental health problems reported in persons living with HIV. According to Dubé et al study, (2005) found that the longevity of people living with HIV has increased and they have increased the risk to develop neuropsychiatric disease; more patients present with a depressive spectrum. Schadé A et al, 2013 found that depression and dysthymic disorder are the most common diagnoses among people infected with HIV who search treatment for mental health problems. As a result, HIV and depression have high comorbidity to each other. Another study in Tanzania found that depressive symptoms are more prevalent among HIV infected adolescents compared to non-infected counterparts. Judd,F et al, (2005) studies reported that clinical depression, depressive symptoms and attempt to suicide are higher among people living with HIV. Crandall and Coleman study, (1992) the depression is a big issue in people living with HIV/AIDS because it cause the decrease of medical compliance, low level of adherence in therapy, and increase the risk of having a worse medical prognosis. Afterwards, it is recommended that when using depression rating tools with persons with HIV, one should focus on cognitive and emotional symptoms rather than somatic one (Bridwell et al., 2015).

The purpose of this study was to develop a comprehensive understanding of the depression among people living with HIV, which can lead the attempt in preventing further HIV transmission, and support the people living with HIV to lead healthy and responsible live.

The main goal of this study was the evaluation of the prevalence of depression in people living with HIV/AIDS in Albania.

2. METHODS

2.1. Study Setting

The study was conducted among adult (15 years and above) living with HIV/AIDS and receiving care from Outpatient Clinic in Tirana. The outpatient clinic is delivered by interdisciplinary team that cares

for HIV infected adults in all country. The clinic serves only to people infected from HIV offering prevention, care, treatment. The team consists of nurses, social worker, psychologist and infectious disease specialists. The outpatient clinic for HIV was established nearly 12 years ago and was based at the Infection Diseases Hospital in Tirana. HIV-infected patients are typically referred to the Outpatient Clinic after the patient is diagnosed and confirmed as HIV + from lab. At their first clinic visit, patients undergo a comprehensive assessment by team members, which includes social and medical history, physical examination, review of laboratory results, and education about HIV infection and how it is transmitted. For patients who are candidates for initiation of antiretroviral therapy a physician discuss treatment options in relation to patient-specific factors. In terms of ongoing patient care, the doctors monitor laboratory results and other signs and symptoms to identify any adverse effects of antiretroviral drug therapy that may arise. PLWH come to the ambulatory clinic every month to obtain their treatment.

2.2. Study Design

This was a cross-sectional descriptive study utilizing quantitative survey methods of data collection. The Patient Health Questioner-9 (PHQ-9) was used as depression tool for data collection. It was adopted with modifications, pretested, translated and back translated was used. The PHQ-9 is self-administrated and can easily be scored by health provider. ThePHQ-9 is based directly on the nine diagnostic criteria. Total scores on the PHQ-9 range from 0-27 with five severity categories: ranges from 0 to 27 with severity categories including: (1-4) depressive symptoms; (5–9) mild depression; (10–14) moderate depression; (15–19) moderately severe and severe (20–27). From the reliability test it was found that PHQ-9 has a high reliability and good consistency level that was evidenced by the Cronbach Alfa coefficient = 0.818

2.3. Study Design and Sampling of Study Subjects

The subject populations are every person living with HIV virus in Albania. The target population where this survey is focused on are all persons diagnosed and reported with HIV, nearby national database of the Institute of Public Health (IPH). In the national level, the IPH lab is the institution that performs the final confirmation for an HIV test. Based on the HIV national report (2017), the total number of persons diagnosed with HIV in Albania, by 1 December 2017, is 1090 of whom 71.5% are males and 28.4% are females. The sample frame was people living with HIV/AIDS, above 15 years old. 839 is the total number of PLWH, > 15 years old in Albania. To ensure equal representation of sub-populations we use the stratified sample dividing the population in two strata with the criteria of getting/non getting antiretroviral therapy. 465 PLWH are on antiretroviral therapy and 374 PLWH are not on antiretroviral therapy. To specify the sample size we use the Sovin formula $n= N/1+N* (e)^2$. The sample size is 264 PLWH. The first stratum of PLWH on therapy with the criteria of adherence in therapy is divided in two groups. In a random way we select the sample. The sample is made up of three groups: PLWH on ARV with good adherence (88), PLWH on ARV with low adherence (88) and PLWH non on therapy (88).

2.4. Definition of variables

Adherence according to WHO in the context of chronic diseases adherence is defined as the degree to which the patient agrees and follows the recommendations made by the physician for receiving treatment.

Depressions measured through nine item depression scale which is based on DSM IV criteria

Safe sexual behaviors are the systematically used of condom during every sexual act or abstained from sex in the 12 months preceding the study.

Consistent condom use was determined as a practice of permanently using *a* condom every sexual intercourse vaginal/anal in the twelve months before the study.

Casual sexual partner it is the person that you have sexual intercourse without having an emotional connection.

Kinds of sex activities the sexual activity can be performed in a different manner: anal, oral, vaginal activity

2.5. Ethical Issues of the Study

Informed consent is taken to all study participants'. It is explained in detail every step of the study, the reason why its conduct and the why it's important. It's discussed about the risk and the potential benefits. It is respected and protected the confidentiality and the anonymity of every participant's from the start till the final stage of the study. In this study is followed the professional codes, laws and regulations of the outpatient clinic. The instruments used in the study are approved by the department of psychology and pedagogy in University of Tirana. The consent to work with patients, involved in the study, is taken from the Infectious Diseases Hospital, Tirana Albania.

3. DATA ANALYSIS

The data analysis was performed using the SPSS 21.0 statistical package. Kolmogorov-Smirnov test was conducted to test the distribution of continuous variables. Descriptive statistics of continuous variables are summarized as mean Categorical variables are presented as absolute frequency and percentage. Hi-square test and Fisher's test were used to compare the proportions between categorical variables. Analysis of variance (ANOVA), *Kruskal-Waltis* test and student t test for comparison of the averages of continuous variables were used. Multivariate logistic regression methodology has been used that controls for all possible confusions for the estimation of independent predictor Statistical significance is defined for $p \leq 0.05$.

4. RESULTS

264 people living with aged over 15 years was a sample of the study. Of these,26.9% were females and 73.1% were males. The sample is divided in three groups according to adherence in therapy each group has 33.3% of sample. The average age of the sample was 43.4 (± 11.7) years, median age 43.5 years and ranging from 18 to 70 years. The age group that prevails in study was 35- 44 years old in the 28.8% of sample. 57.6% of sample was born in urban areas and 42.4% in rural areas; most of them, 76.1% reside in the urban area only in the capital city Tirana live 49.2% of sample. 93.9% of sample Albanian ethnicity prevails on the study. 48.1% are "married", followed by 23.5% "single", 12.5% "divorced" , 10.2% "widow" , 4.9% "living together but not married" and 0.8% have "regular partner but do not living together". 36.4% have completed "middle school" and 35.2% have completed "high school". 51.1% of sample was employed of who prevail in drivers 9.6% and local owner and night guard respectively 6.7%. 65.2 % of the sample has children. The average of monthly income of sample was 196,401 Lek with rank (0 to >550,000). The average of monthly income of women was 159,859 Lek with a rank (0> 550,000) while the average of monthly income of men was 209. 844 Lek with a rank (0>550000). It is noticed that men's average monthly income is higher than in women. 49.2% of our sample lives in their own house; 29.2% live with their parents; 17.4% rented house, 3% lives in the house of their cousins, motel, and prisons and on the street respectively 0.4%. 85.2% of sample had sexual activities in the last 12 months.

Table1. *The classification of depression in relation to demographic data*

Variables	Depression Symptom	Mild Depression	Moderate Depression	Moderatel y Severe	Severe Depression	P
	N (%)	N (%)	N (%)	N (%)	N (%)	
Sexual Identity						0.6
Female	21 (29.6)	25 (35.)	19 (26.8)	4 (5.6)	2 (2.8)	
Male	73 (37.8)	60 (31.1)	42 (21.8)	15 (7.8)	3 (1.6)	
Age, M (SD)	44.9 (±12.8)	43.1 (±11.9)	44.5 (±10.9)	39.9 (±2.3)	37.4 (±5.6)	0.4
Age group, (years)						0.1
16-24	9 (64.3)	2 (14.3)	3 (21.4)	0	0	
25-34	13 (27.7)	20 (42.6)	7 (14.9)	6 (12.8)	1 (2.1)	
35-44	25 (32.9)	26 (34.2)	16 (21.1)	5 (6.6)	4 (5.3)	
45-54	25 (33.8)	20 (27.0)	21 (28.4)	8 (10.8)	0	
55-64	18 (40.9)	13 (29.5)	13 (29.5)	0	0	
>65	4 (44.4)	4 (44.4)	1 (11.1)	0	0	
Place of Residence						0.08
Rural	15 (28.3)	23 (36.5)	18 (28.6)	7 (11.1)	0	

Urban	79 (39.3)	62 (30.8)	43 (21.4)	12 (6.0)	5 (2.5)	
Employment status						0.03
No	33 (28.2)	33 (28.2)	37 (31.6)	10 (8.5)	4 (3.4)	
Retirement	5 (41.7)	3 (25.0)	4 (33.3)	0	0	
Yes	56 (41.5)	49 (36.3)	20 (14.8)	9 (6.7)	1 (0.7)	
Education						0.1
No education	2 (40.0)	0	2 (40.0)	0	1 (20.0)	
Middle School	32 (27.8)	37 (32.2)	32 (27.8)	12 (10.4)	2 (1.7)	
High School	37 (38.5)	33 (34.4)	19 (16.5)	6 (6.3)	1 (1.0)	
University	23 (47.9)	15 (31.3)	8 (8.3)	1 (2.1)	1 (2.1)	
Religion						0.7
Atheist	7 (38.9)	6 (33.3)	4 (22.2)	1 (5.6)	0	
Bektashi	1 (50.0)	1 (50.0	0	0	0	
Catholic	9 (27.3)	14 (42.4)	8 (2242)	2 (6.1)	0	
Muslim	60 (40.0)	40 (26.7)	37 (24.7)	10 (6.7)	3 (20.0)	
Orthodox	9 (32.1)	10 (35.7)	5 (17.9)	2 (7.1)	2 (7.1)	
Civil Status						0.3
Cohabitation	2 (15.4)	4 (30.8)	6 (46.2)	0	1 (7.7)	
Single	23 (37.1)	21 (33.9)	9 (14.5)	7 (11.3)	2 (3.2)	
Divorce	8 (24.2)	12 (36.4)	9 (27.3)	4 (12.1)	0	
Widow	8 (29.6)	12 (44.4)	5 (18.5)	2 (7.4)	0	
Regular partner	1 (50.0)	0	1 (50.0)	0	0	
Married	52 (40.9)	36 (28.3)	31 (24.4)	6 (4.7)	2 (1.6)	
Sexual Orientation						0.5
Bisexual	12 (33.3)	11 (30.6)	11 (30.6)	2 (5.6)	0	
Heterosexual	72 (36.0)	63 (31.5)	47 (23.5)	13 (6.5)	5 (2.5)	
Homosexual	10 (35.7)	11(39.3)	3 (10.7)	4 (14.3)	0	
Perceived sexual identity						0.2
Female	25 (29.8)	29 (34.5)	20 (23.8)	8 (9.5)	2 (2.4)	
Male	69 (38.3)	56 (31.3)	41(22.8)	11 (6.1)	3 (1.7)	
Do you have children						0.7
No	31 (33.7)	34 (37.0)	18 (19.6)	7 (7.6)	2 (2.2)	
Yes	63 (36.6)	51 (29.7)	43 (25.0)	12 (7.0)	3 (1.7)	
Where do you live?						0.9
Prison	1 (100.0)	0	0	0	0	
Hotel	0	1 (100.0)	0	0	0	
With parents	24 (31.2)	29 (37.7)	14 (18.2)	8 (10.4)	2 (2.6)	
Rented house	18 (39.1)	14 (30.4)	12 (26.1)	1 (2.2)	1 (2.2)	
Cousin home	2 (25.0)	2 (25.0)	3 (37.5)	1 (12.5)	0	
Own house	49 (37.7)	39 (30.0)	31 (23.8)	9 (6.9)	2 (1.5)	
Other	0	0	1 (100.0)	0	0	
Monthly incomes(lek)						0.03
No incomes	18 (30.5)	19 (32.2)	14 (23.7)	5 (8.5)	3 (5.1)	
>50.000	1 (20.0)	1 (20.0)	2 (40.0)	0	1 (20.0)	
]50.000-100.000]	5 (14.7)	9 (26.5)	15 (44.1)	5 (14.7)	0	
]100.000-150.000]	6 (24.0)	8 (32.0)	10 (40.0)	1 (4.0)	0	
]150.000-200.000]	9 (30.0)	14 (46.7)	4 (13.3)	3 (10.0)	0	
]200.000-250.000]	15 (48.4)	8 (25.8)	6 (19.4)	1 (3.2)	1 (3.2)	
]250.000-300.000]	9 (47.4)	2 (10.5)	6 (31.6)	2 (10.5)	0	
]300.000-350.000]	4 (40.0)	3 (30.0)	2 (20.0)	1 (10.0)	0	
]350.000-400.000]	6 (50.0)	6 (50.0)	0	0	0	
]400.000-450.000]	4 (66.7)	1 (16.7)	1 (16.7)	0	0	

]450.000-500.000]	4 (66.7)	2 (33.4)	0	0	0	
]500.000-550.000]	3 (75.0)	1 (25.0)	0	0	0	
>550.000lek	10 (43.5)	11 (47.8)	1 (4.3)	1 (4.3)	0	

It has the statistically significant relationship between "depression" and "monthly income level"(p=0.03) and "depression" and "status of employment"(p=0.03).

Table2. *The prevalence of depression using PHQ-9 and Beck Inventory*

Depression Rating Scale	N	%	95%CI	Depression Rating Scale	N	%	95%CI
PHQ-9				**Beck Inventory**			
Depressive symptoms	94	35.6	29.82 - 41.70	Depressive symptoms	111	42	35.98 - 48.2
Mild depression	85	32.2	26.60 - 38.20	Mild depression	67	25.4	20.26 - 31.09
Moderate depression	61	23.1	18.15 - 28.66	Moderate depression	62	23.5	18.51 - 29.08
Moderate to severe depression	19	7.2	4.39 - 11.01	Severe depression	24	9.1	7.91- 13.23
Severe depression	5	1.9	0.62 - 4.37				
Total	264	100		Total	264	100	

In the study sample using Patient Health Questioner-9 and Beck Inventory as depression tool was found that "depressive symptoms" prevail in both instruments respectively 35.6% and 42%.

Table3. *The comparison between Patient Health Questioner and Beck II Inventory*

	Intraclass Correlation[a]	95% Confidence Interval		F Test with True Value 0			
		Lower Bound	Upper Bound	Value	df1	df2	Sig
Single Measures	.237[b]	.205	.274	10.616	263	7890	.000
Average Measures	.906[c]	.889	.921	10.616	263	7890	.000

Between two instruments PHQ-9 and BECK-II there is a strong correlation with high Cronbach Alfa 0.906 and a statistically significant correlation between the statements (p <0.001).

Table4. *The classification of depression according PHQ-9 in relation to adherences in therapy*

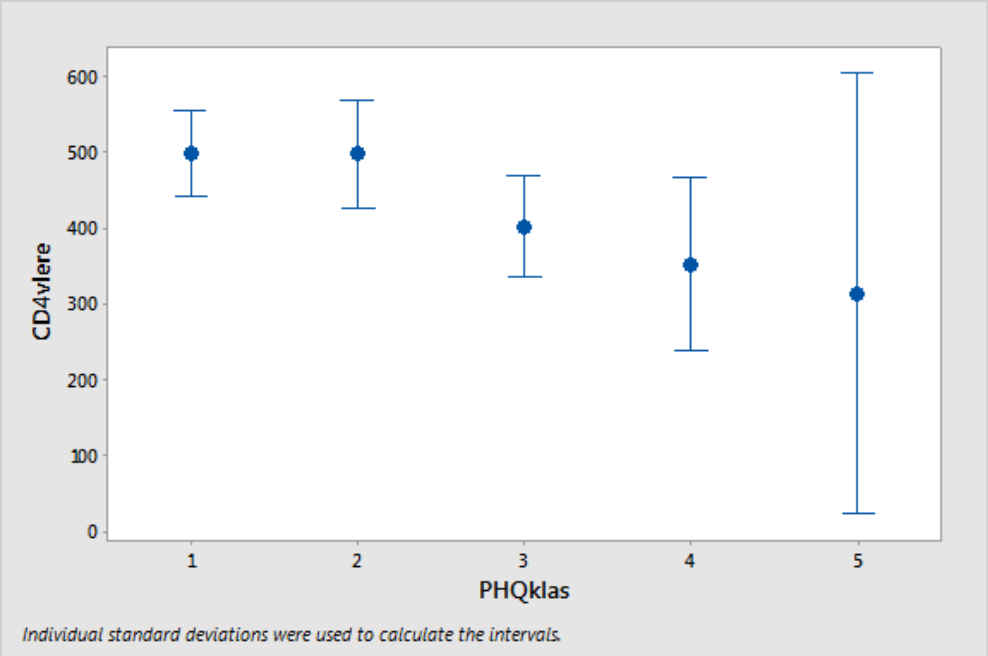
Depression Rating Scale PHQ-9	Depressive symptoms	Mild depression	Moderate depression	Severe depression	P
Low Adherence in therapy					
BDI	23 (26.1)	22 (25.0)	32 (36.4)	11 (12.5)	<0.01
PHQ9	19 (20.2)	26 (30.6)	32 (52.5)	11 (45.8)	
Good Adherence in therapy					
BDI	53 (60.2)	18 (20.5)	14 (15.9)	3 (3.4)	0.02
PHQ9	42 (44.7)	30 (35.3)	14 (23.0)	2 (8.3)	
No therapy					
BDI	35 (39.8)	27 (30.7)	16 (18.2)	10 (11.4)	0.6
PHQ9	33 (35.1)	29 (34.1)	15 (24.6)	11 (25.8)	

Significant difference between BECK II Inventory and PHQ-9 was found in group "low adherence in therapy" (p <0.001); and groups "good adherence in therapy" (p = 0.02). No significant differences between two instruments was found in the group "no therapy" (p = 0.6).

Table5. *The depression rating scale according PHQ-9 in relation to CD4 value*

Depression Rating Scale PHQ-9	M	SD
Depressive symptoms	497.97	276.18
Mild depression	498.11	330.94
Moderate depression	402.80	257.50
Moderate to severe depression	352.68	235.95
Severe depression	314.40	233.30

It was found significant difference regarding CD4 and PHQ-9 depression rating scales. The highest values of CD4 were found for depressive symptoms and mild depression (ANOVA F-ratio = 2.3 p = 0.05).



Graphic1. *CD4 values according to the PHQ-9 depression rating scales*

Table6. *Regression of depression from demographic dates and adherence*

Variables	Coefficient	Std. Error	P
Age	-0.026970	0.028657	0.3466
Ethnicity "rom"	-2.72014	2.67141	0.3086
Ethnicity "Albanian"	-1.40129	2.20614	0.5253
Ethnicity " foreign "	15.72949	11060.73045	0.9989
Religion "bektashi"	3.59489	3.55649	0.3121
"catholic"	0.33552	1.04739	0.7487
"Muslim"	0.15773	0.91954	0.8638
"orthodox"	0.89382	1.09043	0.4124
“other"	1.24556	1.08796	0.2523
Residence “urban”	-1.17465	0.59117	0.0469
"hotel"	43.25168	14046.76166	0.9975
“with parents"	23.38752	8658.62333	0.9978
“rented house"	22.90518	8658.62331	0.9979
" cousin home "	22.69438	8658.62339	0.9979
"own house"	23.16511	8658.62334	0.9979
Education "elementary”	-0.88170	0.87874	0.3157
Education “high"	0.28462	0.57129	0.6183
Education “no education"	0.93096	1.75603	0.5960
Education “postgraduates studies "	2.31557	1.57766	0.1422
Education ”university”	-0.28088	0.77011	0.7153
Do you have any disability	1.94111	0.59592	0.0011
"pension"	0.10325	1.21059	0.9320
Employment “po"	0.82102	0.86886	0.3447
Income"]150.000-200.000]"	-1.52125	1.03904	0.1432
Income "]200.000-250.000]"	-1.62158	1.05863	0.1256
Income "]250.000-300.000]"	-2.29737	1.28564	0.0739
Income "]300.000-350.000]"	-2.19824	1.44253	0.1275
Income]350.000-400.000]"	-0.98449	1.32649	0.4580
Income]400.000-450.000]"	-3.26696	1.79880	0.0693
Income "]450.000-500.000]"	-1.47479	1.48117	0.3194
Income "]50.000-100.000]"	0.51234	1.03438	0.6204
Income]500.000-550.000]"	-4.72673	2.39411	0.0483
Income"< 50.000lek"	-2.66579	1.88437	0.1572
Income ">550.000lek"	-1.96584	1.21181	0.1048

Income "without income"	-0.55610	1.02202	0.5864
Sexual attraction "male"	-0.74469	1.46866	0.6121
Sexual attraction “bisexual"	0.28214	1.57759	0.8581
Civil status “single "	-1.28580	1.14240	0.2604
Civil status “divorce"	0.011581	1.44162	0.9936
Civil status" widow"	0.26927	1.46932	0.8546
Civil status " cohabitation "	0.55611	3.94826	0.8880
Civil status “married"	-0.82761	1.22637	0.4998
Do you have children	-0.68791	0.74048	0.3529
Do you have sex in last 12 months	-2.39663	1.08925	0.0278
Adherence "good"	-1.65980	0.51938	0.0014
Adherence “low"	-0.0030520	0.81409	0.9970
Adherence “without therapy”	1.12268	1.04106	0.2809
Sexual desire	2.24389	0.59922	0.0002
Constant	-18.5270		

In the study we found that “residence in urban area”; “perceived HIV as disability”; “monthly income”]500.000-500.000]”;” having sex in the last 12 months”; “good adherence in therapy”; and “sexual desire” are predictive factor for depression

5. DISCUSSION

In the study between Patient Health Questionnaire-9 and BECK-II inventory was found a strong correlation with high Cronbach Alfa 0.906 and a statistically significant correlation between the statements ($p < 0.001$). PHQ-9 questions correlate with BECK II inventory questions and may replace each other to measure the same characteristic.

The study found statistically significant relationship between “employment status” and “depression” ($p=0.03$). The depressive symptoms prevail in “retirement” and “employed” respectively 41.7% and 41.5%. Mild depression prevails in “employed” and “unemployed” respectively 36.3% and 28.2%. Moderate depression prevail in “retirement” and “unemployed” respectively 33.6% and 31.6% compare to “employed” 14.8%. Moderate to severe depression and severe depression prevail in “unemployed” respectively 8.5% and 3.4%. As the result the “employed” participants have low level of depression compare to “unemployed” and “retirement” participants.

It was found a statistically significant relationship between “monthly income” and “depression” ($p=0.03$).The depressive symptoms prevail in monthly income “]200.000-250.000] Lek të vjetër” Mild depression prevail in monthly income” >550.000 Lek të vjetër” and “no monthly income” respectively 47.8% and 32.2%. Moderate depression prevail in monthly income “] 50.000-100.000] Lek tw vjetwr “in 44.1% of participants. Moderate to severe depression and severe depression prevail in monthly income respectively] 50.000-100.00] and “no monthly income”. At result the moderate depression; moderate to severe depression and severe depression was higher in the people without monthly income and low monthly income.

The prevalence of depression according to the Patient Health Questionnaire-9 (PHQ-9) rating scale, it reported that "depressive symptoms" prevail 35.6% of participants, followed by "mild depression" 32.2%; "moderate depression" 23.1%, and low levels of "moderate to severe depression” 7.2% and " severe depression " 1.9%, with statistically significant difference between them ($p < 0.001$). The prevalence of depression according to the Beck inventory rating scale, it reported that "depressive symptoms" prevail in 42% of participants, followed by "mild depression" 25.4%; "moderate depression" 23.5%, and low levels of "severe depression" 9.1% with statistically significant difference between them ($p < 0.001$). The “depressive symptoms” are highly reported with Beck inventory than PHQ-9. “Mild depression symptoms” are highly reported with PHQ-9 than Beck Inventory. The “moderate depression” and “severe depression” is equally reported from both instruments.

It was found statistically significant difference between BECK II Inventory and PHQ-9 was found in group "low adherence in therapy" ($p < 0.001$); and groups "good adherence in therapy" ($p = 0.02$). No significant differences between two instruments was found in the group "no therapy" ($p = 0.6$). In the group” low adherence in therapy” is reported higher percents of “moderate depression” 52.5% and “severe depression” 45.8% compare to group with “good adherence in therapy” 23% and 8.3% “ no therapy” 24.6% and 25.8%.

In the study was reported significant difference regarding CD4 values and PHQ-9 depression rating scales. The highest values of CD4 were found for depressive symptoms and mild depression (ANOVA F-ratio = 2.3 p = 0.05). The low levels of depression the higher the CD4 value and the same other way around.

The study found that "residence in urban area" is a predictive and protective factor in depression (p = 0.04; β = - 1.17465). There is a negative correlation between residence in urban area and depression. This indicates that HIV people living in urban areas have less chance to be affected by depression).

The study found that" you are living with disability" is a predictive factor in depression (p=0.001; β=1.94111). There is a positive correlation between perception that you are living with disability and depression. This indicates that the PLWH perceive HIV diseases as disability are more chance to be affected from depression.

The monthly incomes is a predictive and protective factor in depression (p = 0.04; β=-4.72673). There is a negative correlation between monthly incomes and depression. This indicates that PLWH who have monthly income] 500,000-550,000] have less chance to be affected by depression.

Study found that "having sex in the last 12 months" is a predictive factor in depression (p = 0.02 β = - 2.39663). There is a positive correlation between having sex in the last 12 months and depression. In the last 12 months, people living with HIV who have had sexual relationship have less chance of being affected by depression.

Good adherence to therapy is a predictive and protective factor in depression (p = 0.001 β = - 1.65980). There is a negative correlation between good adherence in therapy and depression. This indicates that people with good adherence to therapy are likely to have lower levels of depression.

Sexual desire is a predictive and protective factor in depression (p = 0.0002 β = -2.24389). The higher is the sexual desire; the lower level of depression.

6. CONCLUSION

The depressive symptoms prevail in people living with HIV. The study found that the residence in the urban area; monthly incomes; having sexual relationship over the last 12 months; good adherence in therapy and high sexual desire are protective factors from depression.

In light of the high prevalence of depressive symptoms in people living with HIV and 85.2% involved in the sexual activities over the last 12 months, these findings underscore the need for assessment for depression should be integral part of the routine HIV care in outpatient clinic. Also long term HIV care and prevention and programs should lay emphasis on the need to counsel people living with HIV about risk reduction and these should be tailored to address specific needs of person living with HIV.

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Citation: *Redona Dudushi. "Assessment of Depression in People Living with HIV in Albania; the influence of Demographic Data, Adherence and Sexual Desire in Depression" International Journal of Humanities Social Sciences and Education (IJHSSE), vol 5, no. 10, 2018, pp. 57-66. doi: http://dx.doi.org/10.20431/2349-0381.0510007.*