

Personality Traits, Loneliness and Mental Health among HIV Clinic Attendees in a Nigerian Tertiary Health Institution

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Abstract

Background: Personality traits, loneliness and mental health are conditions often evaluated in patients with chronic, disabling or stigmatizing conditions. These conditions contribute to the health seeking behavior and outcome of management of diseases especially in stigmatizing illnesses like HIV/AIDS. This study therefore assessed the prevalence of personality traits, loneliness and mental health among HIV/AIDS clinic attendees in a Nigerian tertiary health institution.

Method: The general health questionnaire (GHQ-12), the Big Five Personality Inventory and the University of California Los Angeles (UCLA) loneliness scale, version 3, were used to assess a total of 310 HIV/AIDS clinic attendees in a Nigerian tertiary health institution for prevalence of personality traits, loneliness and mental health.

Results: The various aspects of personality traits differed in their prevalence. The most prevalent was openness (27.4%), followed by neuroticism (25.5%), conscientiousness (19.0%), agreeableness (15.5%) and extraversion (12.6%). About 33.2% of the subjects indicated experiencing frequent loneliness, while 11.9% indicated severe loneliness. Furthermore 32.9% showed the presence of mental health problems as against 67.1% who indicated absence of mental health problems.

Conclusion: This study revealed the prevalence of various forms of personality traits, loneliness and presence of mental health problems among the subjects.

Keywords: Personality traits; Loneliness; Mental health; HIV/AIDS

Introduction

According to the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV) of the American Psychiatric Association, "personality traits are enduring patterns of perceiving, relating to and thinking about the environment and about oneself that are exhibited in a wide range of personal and social context"[1]. An individual's personality has been found to predict how that person reacts to other people, how he articulates and solves problems and how he is affected by stressful events in his environment [2-4].

Trait theorists in Psychology using factor analysis identified five personality traits they called the big five personality traits [5,6]. They argued that these five traits represent the core of personality. The five traits are: agreeableness, neuroticism, and extraversion, openness to experience, agreeableness and conscientiousness [7]. These five traits have been linked to various characters of individuals and have been associated with mental health. For instance McCrae and Cost [8] opined that neuroticism was linked to low self esteem, irrational beliefs and pessimistic attitude. Extraversion was linked to social skills, having many friends, having enterprising vocational interests and participation in sports. Furthermore, they posited that openness to experience was linked to having interest in travels, having many different hobbies and diverse vocational interests [8].

Agreeableness was linked to having forgiving attitudes, beliefs in cooperation and having inoffensive language. With regards to conscientiousness the researchers linked it to having leadership skills, long term plans, organized support network and technical expertise. Among these five factors neuroticism has been found to be significantly correlated with psychopathology especially personality disorder [9-11]. It has been argued that our thinking, feelings and behavior as well as our unique individuality contribute a lot to our mental health. For

instance based on personality traits some people are more prone to mental health problems than others [12,13].

Loneliness, on the other hand, is the feeling of distress that arises when an individual perceives his or her social relationships as being less satisfying than what is desired [14]. It causes people to feel unwanted and it has been observed that people who are lonely often crave human contact but their state of mind makes it difficult for them to form connections with other people. Pinqart and Sorensen [15] argued that loneliness has relationship with social and demographic variables such as age, gender, socioeconomic status, marital status, quality of social network and contact with friends. Some health risks found to be associated with loneliness include suicide, increased stress levels, cardiovascular diseases and stroke, decreased memory and learning as well as alcohol and drug abuse and antisocial behavior [16]. World Health Organization defined mental health as a state of wellbeing whereby an individual realizes his or her own abilities, can cope with the normal stresses of life, work productively and fruitfully and is able to make meaningful contribution to his or her community [17]. It encompasses the ability of an individual to enjoy life and have a balance between life activities and efforts to achieve psychological resilience [4].

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WHO revealed that 12% of global diseases were as a result of mental health problems and that by the year 2020 the burden of mental health problem will further increase by nearly 15% and this will lead to a loss of disability adjusted life years to illness and young adults in developing countries seem to be the most prone [18]. Indeed, a number of researches had revealed some connections between loneliness, personality traits and mental health problems. These researchers observed that loneliness is associated with depressive symptoms, shyness, neuroticism and low self esteem as well as agreeableness and conscientiousness [4,19,20]. Unfortunately, despite above findings, mental health has not received much attention as was necessary apparently due to lack of adequate knowledge and the misunderstanding of issues bothering on mental health [21].

HIV/AIDS is a significant cause of death and disability especially in low and middle income countries [22]. The latest national prevalence rate of HIV/AIDS in Nigeria was 4.1% by 2010 [23]. There is a close connection between mental health and HIV/AIDS: mental health problems are usually associated with increased risk of HIV infections and some mental health problems occur as a direct result of HIV infection [22].

Since no known study had evaluated the relationship between personality traits, loneliness and mental health among HIV clinic attendees in Nigeria, this study is an attempt to evaluate the relationship between personality traits, loneliness and mental health among HIV clinic attendees in Nigeria with a view to provide base line data for future studies in this area.

Study hypotheses

The study hypotheses were (1) HIV/AIDS clinic attendees will not manifest various forms of personality traits, and will not show signs of loneliness and mental health problems. (2) There is no relationship between demographic variables of PLWHA and Personality traits. (3) There is no relationship between demographic variables of PLWHA and loneliness. (4) There is no relationship between demographic variables of PLWHA and mental health problems (5) there is no relationship between various social habits.

Method

Study design

This is a cross sectional descriptive survey which was carried out at the HIV/AIDS clinic of the University of Nigeria Teaching Hospital Ituku-Ozalla, Enugu Sate, Nigeria.

The study site

The study site was a federal tertiary health institution that serves virtually all the five south eastern states of Nigeria and beyond. The hospital has over 500 bed capacities and about 21 clinical departments. The HIV/AIDS clinic has over 5,000 registered HIV/AIDS patients. Presently the center is being supported by PEPFAR and runs 5-day clinic services for HIV/AIDS patients per week. It has an average daily clinic attendance of 30 patients. Study subjects: Study subjects were patients attending the HIV/AIDS clinic at the University of Nigeria Teaching Hospital Ituku-Ozalla. A total number of 310 participants were enrolled into the study. This number was arrived at using the formula for minimum sample size for a prevalence study [23]. Participants were enrolled consecutively following informed consent as they come to the clinic until the sample size was reached.

Ethical approval

Ethical approval was obtained from University of Nigeria Ethics Committee and written informed consent obtained from participants.

Inclusion criteria: Participant must be adult HIV positive person receiving treatment at the study site during the time of study. Participant must give informed consent

Exclusion criteria

Very ill patients.

Study instrument and data collection

Data for the study was collected by the authors with the help of two psychology interns. The subjects were given a self administered instrument that was made up of four parts. Part one contained basic socio-demographic information such as age, gender, marital status, educational level, religion and occupation. Parts two, three and four were standardized instruments. These were the General health questionnaire (GHQ-12) [24]. The GHQ-12 is an instrument used to screen for psychiatric morbidity. Although it does not yield a diagnosis, positive scores are indicative of negative states of mental health. Each item is rated 0 or 1 on the basis of the frequency with which the subject had experienced the symptom in the recent past yielding a maximum score of 12. In the GHQ-12 subjects are asked to indicate for instance, how recently they have been able to concentrate on whatever they have been doing. The response options include; better than usual, same as usual, less than usual, and much less than usual. A score of 1 and above is indicative of negative state of mental health. The GHQ-12 has been used for studies in Nigeria [25,26].

Part three was the Big five personality inventory [27]. This is a 44-item inventory that assesses personality from a five-dimensional perspective. The five dimensions are extraversion, agreeableness, conscientiousness, neuroticism and openness. The scale is rated based on a 5-point likert scale ranging from 1='strongly disagree' to 5='strongly agree'. The higher the score in each subscale the more the respondent seems to consider the personality characteristics of him or herself. The average current reliability study for the Big five inventory was .75, while the current reliability of each of the subscales were Extraversion=.69; Agreeableness=.70; Conscientiousness=.72; Neuroticism=.75 and Openness=.74 [21]. Part four was the Revised University of California Los Angeles (UCLA) loneliness scale (version 3) [28]. The test is used to assess subjective feelings of loneliness or social isolation; it is a widely used measure of loneliness with over 500 citations. The UCLA loneliness scale (version 3) is a 10-item scale that consists of self relevant statements that respondents answer on a 4 point scale ranging from 1='not at all' to 4='frequently'. So scores ranged from 1='low loneliness' to 4='high loneliness'. The reliability coefficient of the scale was calculated as .94 by the test retest method, while the cronbach alpha's reliability coefficient was found to be 0.96 [28]. Total scores ranging from 15-20 indicate average loneliness; 21-30 indicates frequent loneliness, while scores ranging from 31-40 indicates severe loneliness. Scores on the UCLA have been found to predict a wide variety of mental and physical health outcomes such as depression, anxiety and mortality.

Data Analysis

Data for the study was analyzed using the Statistical package for social science, SPSS version 16.0. Means, standard deviations, percentages and the student t-test were performed to find relationships between variables. Binary logistic regression was also performed to

Socio-demographic variables	Frequency N=310	Percent
Gender		
Male	128	41.3
Female	182	58.7
Age Group		
20-24	20	6.5
25-29	92	29.7
30-34	75	24.2
35-39	50	16.1
40-44	39	12.6
45-49	22	7.1
50-54	10	3.2
55-59	2	0.6
Educational level		
Primary	35	11.3
Secondary	123	39.7
Tertiary	152	49.0
Occupation		
Student	84	27.1
Business	100	32.3
Civil service	96	31.0
Unemployed	30	9.7
Marital status		
Single	142	45.8
Married	119	38.4
Divorced	16	5.2
Separated	10	3.2
Widowed	23	7.4
Religion		
Christian	290	93.5
Moslem	9	2.9
Other religion	11	3.5

Table 1: Socio-demographic distribution of respondents , Age range: 20-57 years.

Psychological variables	Frequency	Percent
Personality trait		
Openness	85	27.4
Conscientiousness	59	19.0
Agreeableness	48	15.5
Extraversion	39	12.6
Neuroticism	79	25.5
Loneliness		
No loneliness	170	54.8
Frequent loneliness	103	33.2
Severe loneliness	37	11.9
Mental health problem		
Absence of mental health problem	208	67.1
Presence of mental health problem	102	32.9

Table 2: Prevalence of Personality traits, loneliness and mental health problems among PLWHA.

predict the possibility of the subjects experiencing loneliness and mental health. The level of significance chosen for this study was $p \leq 0.05$ at 95% confidence interval.

Results

All the 310 respondents who took part in the study fully completed the assessment instruments thereby giving a proper response rate of 100%. 58.7% of the respondents were females, 38.4% were unmarried, while 93.5% were Christians. The age range was 20-57 years and modal age group was 25-29 years (29.7%). All had at least primary

education with 49% completing tertiary educational level. Only 31.0% were employed by the government (civil servants) while the rest were either students (27.1%), employed in private sector business (32.3%) or unemployed (9.7%) (Table 1). The various aspects of personality traits differed in their prevalence: the most prevalent was openness (27.4%), this was followed by neuroticism (25.5%), conscientiousness (19.0%), agreeableness (15.5%) and extraversion (12.6%). With regards to loneliness 33.2% of the subjects indicated experiencing frequent loneliness, 11.9% indicated severe loneliness, whereas 54.8% experienced no loneliness. Furthermore in the area of mental health 32.9% showed the presence of mental health problems as against 67.1% who indicated absence of mental health problem. This was shown in Table 2 below.

Marital status significantly affected the personality traits of the PLWHA. Gender, religion, educational level, occupation status and age did not significantly affect their personality (Table 3). In terms of loneliness marital status and age significantly affected presence, frequency and severity of loneliness (Table 4). Other variables like gender, religion, educational level and occupational status did not contribute significantly to loneliness. Presence of mental health problem was not significantly affected by gender, marital status, religion, educational level, occupational status or age (Table 5).

Personality trait did not show any significant relationship to presence or absence of loneliness or mental health problem. However there is a significant relationship between presence or absence of loneliness and mental health problem: those who were lonely were more likely to have mental health problem (odds ratio=8:1) (Tables 6 and 7).

Discussion

This study had revealed the presence of various personality traits, varying degrees of loneliness and indications of mental health problems among HIV AIDS clinic attendees who took part in the study. This finding corroborates earlier report by Cornwell and Waite [19] who reported that loneliness was associated with some mental health problems and personality characteristics. Majority of the respondents were females and unmarried. This may imply that HIV/AIDS affects more females and unmarried individuals within the study area. This finding reflected earlier views on the prevalence of HIV/AIDS in Nigeria. For instance PEPFAR [29] had previously observed that the youths and young adults in Nigeria were particularly vulnerable to HIV/AIDS with young women at higher risk than young men.

The modal age group of the subjects was 25-29 years. The HIV/AIDS epidemic had been reported to occur more among the youths and young adults. This frequent occurrence had been attributed to the clandestine high risk heterosexual and homosexual practices among the youths. This age group was also more sexually active and was more likely to engage in unprotected sexual practices which may likely increase their chances of contracting STD including HIV/AIDS. Sale and Gudanya [30] had equally reported similar findings.

About 49% of the subjects had tertiary educational attainment. This may imply that HIV/AIDS is becoming more common among the more educated population than the less educated. One would have assumed that those with tertiary educational attainment should have been more informed about HIV/AIDS and ways of preventing it; it may also mean that the quest for material things might be driving the reckless sexual behavior of students in tertiary education especially girls who may like to exchange their body for money or for grades in order to meet up with academic performance instead of studying hard on their own.

Demographic variable	Personality Trait					X ² P Value
	Openness N=85 (%)	Consciousness N=59 (%)	Agreeableness N=48 (%)	Extraversion N=39 (%)	Neuroticism N=79 (%)	
Sex						
Male	28(32.9)	25(42.4)	22(45.8)	18(46.2)	35(44.3)	3.56 (0.47)
Female	57(67.1)	34(57.6)	26(54.2)	21(53.8)	44(55.7)	
Marital Status						
Single	43(50.6)	31(52.5)	17(35.4)	18(46.2)	33(41.8)	27.26 (0.04)*
Married	28(32.9)	19(32.2)	25(52.1)	10(25.6)	37(46.8)	
Divorced	1(1.2)	3(5.1)	2(4.2)	5(12.9)	5(6.3)	
Separated	2(2.4)	4(6.8)	1(2.1)	2(5.1)	1(1.3)	
Widowed	11(12.9)	2(3.4)	3(6.2)	4(10.2)	3(3.8)	
Religion						
Christian	80(94.2)	54(91.5)	44(91.6)	38(97.4)	74(93.7)	4.39
Moslem	2(2.3)	1(1.7)	2(4.2)	1(2.6)	3(3.8)	(0.82)
Others	3(3.5)	4(6.8)	2(4.2)	0(0.0)	2(2.5)	
Educational level						
Primary	10(11.8)	6(10.2)	6(12.5)	5(12.8)	8(10.1)	5.09
Secondary	37(43.5)	17(28.8)	19(39.6)	15(38.5)	35(44.3)	(0.75)
Tertiary	38(44.7)	36(61.0)	23(47.9)	19(48.7)	36(45.6)	
Occupational status						
Student	23(27.1)	16(27.1)	9(18.8)	14(35.9)	22(27.8)	16.03
Business	25(29.4)	20(33.9)	19(39.6)	13(33.3)	23(29.1)	(0.19)
Civil servant	31(36.5)	19(32.2)	17(35.4)	10(25.7)	19(24.1)	
Unemployed	6(7.0)	4(6.8)	3(6.2)	2(5.1)	15(19.0)	
Age range						
< 40 years	60(70.6)	49(83.1)	34(70.8)	33(84.6)	61(77.2)	5.36
≥ 40 years	25(29.4)	10(16.9)	14(29.2)	6(15.4)	18(22.8)	(0.25)

*Significant

Table 3: Relationship between demographic variables of PLWHA and Personality traits.

Demographic variables	Loneliness			X ² P Value
	No loneliness N=170	Frequent Loneliness N=103	Severe Loneliness N=37	
Sex				
Male	71(41.8)	44(42.7)	13(35.1)	0.68
Female	99(58.2)	59(57.3)	24(64.9)	(0.71)
Marital Status				
Single	88(51.8)	44(42.7)	10(27.0)	16.87 (0.03)*
Married	63(37.0)	40(38.9)	16(43.3)	
Divorced	8(4.7)	6(5.8)	2(5.4)	
Separated	3(1.8)	3(2.9)	4(10.8)	
Widowed	8(4.7)	10(9.7)	5(13.5)	
Religion				
Christian	157(92.4)	96(93.2)	37(100.0)	8.44
Moslem	4(2.4)	5(4.9)	0(0.0)	(0.08)
Others	9(5.2)	2(1.9)	0(0.0)	
Educational level				
Primary	16(9.4)	11(10.7)	8(21.6)	4.73
Secondary	70(41.2)	41(39.8)	12(32.5)	(0.32)
Tertiary	84(49.4)	51(49.5)	17(45.9)	
Occupational status				
Student	55(32.4)	24(23.3)	5(13.5)	11.20
Business	46(27.1)	40(38.8)	14(37.9)	(0.08)
Civil servant	50(29.4)	30(29.1)	16(43.2)	
Unemployed	19(11.1)	9(8.7)	2(5.4)	
Age range				
< 40 years	140(82.4)	74(71.8)	23(62.2)	8.70
≥ 40 years	30(17.6)	29(28.2)	14(37.8)	(0.01)*

Table 4: Relationship between demographic variables of PLWHA and loneliness , *Significant.

Demographic variables	Mental Health Problem		χ ² P Value
	Absence of mental health problem N=208	Presence of mental health problem N=102	
Sex			0.05 (0.83)
Male	85(40.9)	43(42.2)	
Female	123 (49.1)	59(57.8)	
Marital Status			7.01 (0.14)
Single	99(47.6)	43(42.2)	
Married	83(39.9)	36(35.3)	
Divorced	10(4.8)	6(5.9)	
Separated	6(2.9)	4(3.9)	
Widowed	10(4.8)	13(12.7)	
Religion			
Christian	191(91.8)	99(97.0)	
Moslem	7(3.4)	2(2.0)	3.49 (0.18)
Others	10(4.8)	1(1.0)	
Educational level			0.64 (0.73)
Primary	25(12.0)	10(9.8)	
Secondary	84(40.4)	39(38.2)	
Tertiary	99(47.6)	53(52.0)	
Occupational status			3.22 (0.36)
Student	60(28.8)	24(23.5)	
Business	68(32.7)	32(31.4)	
Civil servant	58(27.9)	38(37.3)	
Unemployed	22(10.6)	8(7.8)	
Age range			2.90 (0.09)
< 40 years	165(79.3)	72(70.6)	
≥ 40 years	43(20.7)	30(29.4)	

Table 5: Relationship between demographic variables of PLWHA and mental health problems.

	Loneliness absent N=170 (%)	Loneliness present N=140 (%)	χ ² P Value
Personality trait			
Openness	48 (28.2)	37 (26.4)	3.32
Consciousness	32 (18.8)	27 (19.3)	(0.51)
Agreeableness	24 (14.1)	24 (17.1)	
Extraversion	26 (15.3)	13 (9.3)	
Neuroticism	40 (23.6)	39 (27.9)	
Personality trait	Mental health problem absent N=208 (%)	Mental health problem present N=102 (%)	
Openness	55 (26.4)	30 (29.4)	1.81
Consciousness	43 (20.7)	16 (15.8)	(0.77)
Agreeableness	34 (16.3)	14 (13.7)	
Extraversion	25 (12.0)	14 (13.7)	
Neuroticism	51 (24.6)	28 (27.4)	
Loneliness	Mental health problem absent N=208 (%)	Mental health problem present N=102 (%)	67.94
Absent	148 (71.2)	22 (21.6)	(<0.01)*
Present	60 (28.8)	80 (78.4)	Odds Ratio=8.97

Table 6: Relationship between various social habits ,*Significant.

Independent variable	Coefficient of regression (B)	Constant
Loneliness	2.194	-1.906

Table 7: Binary logistic regression of predictor of mental health problems.

Many of the subjects exhibited various degrees of loneliness with 33.2% indicating frequent loneliness while 11.9 indicated experiencing severe loneliness. The condition of being HIV positive may contribute to the level of loneliness noticed among the subjects. Peplau and Perman [14] had posited that the feeling of loneliness arises when a person perceived his or her social relationship as being less satisfying. People with HIV/AIDS had been found to experience stigma and discrimination from the society and this can make them to feel lonely and unwanted. In this regard Cacioppo et al. [20] had argued that

loneliness is not necessarily being alone since reports have indicated that an individual may be in the midst of people and still feel lonely, while he may be alone for a long period without feeling lonely. The study further revealed that 32.9% of the subjects showed the presence of mental health problem. Similar findings had previously been reported. For instance the WHO [22] observed that mental health problems are usually associated with increased risk of HIV infection. Furthermore HIV/AIDS which is a chronic medical condition can be exacerbated by emotional and psychological disorders and in most cases the emotional

aspects of such chronic medical conditions were often neglected when medical interventions are being considered. Such medical condition like depression had been reported to be common among people with HIV/AIDS [31].

Marital status and age significantly affected the presence, frequency and severity of loneliness experienced by the subjects. Pinquart and Sorensen [15] had observed that loneliness relates not only to age, but also to other factors like gender and marital status among other social and demographic variables, the pattern of relationship between age, marital status and loneliness noticed in this study corroborates Pinquart and Sorensen's findings. This study also revealed that subjects who reported being lonely were more likely to have mental health problems. This was in line with previous reports which had linked loneliness to depressive symptoms, neuroticism, low self esteem and feelings of worthlessness [4,19,20]. Furthermore Erozkhan [32] had argued that a person's ability to have close relationships with other people is one of the most important features of a healthy personality.

The high levels of stigma and discrimination being experienced by people living with HIV/AIDS can make them feel socially isolated which will in turn make them to have low mood and subsequent depression. In this regard Ouellette and DiPlacido [33] argued that lack of secure attachment can lead to difficulties in regulating emotions and relating to others, engendering a vulnerability to psychological distress, loneliness and depression.

Recommendations

Since this study had revealed the presence of various forms of personality traits, loneliness and mental health problems among people with HIV/AIDS, and since various reports had indicated that some types of personality traits especially neuroticism and loneliness can predispose to mental disorders especially depression, there is need for government to include regular psychological counseling and psycho-education as part of the routine interventions for HIV/AIDS as this will reduce the possibility of people living with HIV/AIDS from developing full blown mental illness as this will compound their already existing problem and make their recovery more difficult. It will also help to reduce the low self esteem and feeling of loneliness and isolation as noticed among this group of people as reported in this and other related studies.

Limitations of the Study

A study such as this that investigated personality traits, loneliness and mental health among HIV/AIDS clinic attendees will usually have some limitations. This study was carried out in one study location in South Eastern Nigeria and this can limit the generalization of this study beyond the study area. The inability to have a control group of non HIV/AIDS clinic attendees is another limitation of the study. However these limitations will be the focus of future research since this is the first study done on personality traits, loneliness and mental health among HIV/AIDS clinic attendees in south eastern Nigeria.

References

1. American Psychiatric Association (2000) Diagnostic and Statistical Manual of Mental disorders, 4th Edition-Text revision.
2. Schacter DL, Gilbert DT, Wegner DM. Psychology. Worth Publishers, New York, 2009.
3. Piotrowski NA. Psychology Basics. Salem Press Inc. 2005.
4. Shirazi M, Khan MA, Ansari MF (2012) Mental health in relation to personality characteristics among professional and non professional Students. *Journal of Arts, Science and Commerce* 3: 8-15.
5. John OP, Nauman LP, Soto CJ (2008) Paradigm shift to the integrative Big five taxonomy: History, Measurement and conceptual issues. In John OP, Robin RW, Pervin LA (Eds): Handbook of personality. Theory and research. Guilford press. New York, 114-158.
6. Rothmann S, Coetzer EP (2003) The Big Five Personality Dimensions and Job Performance. *SA Journal of Industrial Psychology* 29: 68-747.
7. De Jong CG, Hirsh JB, Shane MS, Gray JR (2010) Testing predictions from personality neuroscience. *Brain Structures and the Big five. Psychological Science* 21: 820-828.
8. McCrae RR, Costa PT (2008) The five factor theory of personality. In John OP, Robies RW, Pervin LA (Eds.) Handbook of personality psychology. New York Guilford 159-181.
9. Aboaja A, Duggan C, Parka B (2011) An exploratory analysis of the NEO-FFI and DSM Personality disorders using multivariate canonical correlation. *Personality and mental health* 5: 1-11.
10. Duggan C (2004) Does personality change? And if so what changes? *Criminal behavior and Mental health*. 14: 5-16.
11. Gomez V, Krings F, Bangerter A, Grob A (2008) The influence of personality and life events on subjective wellbeing from a lifespan perspective. *Journal of research in personality* 43: 345-354.
12. Hampson SE, Friedman HS (2008) Personality and health. In John OP, Robins RW, Pervin LA (Eds.), Handbook of personality; New York; Guilford: 770-794.
13. Wood AM, Tarrier N (2010) Positive Clinical Psychology. A New version and strategy for integrating research and practice. *Clinical psychology Review* 30: 819-829.
14. Peplau LA, Perlman D (1982) Perspective on loneliness. In Peplau LA, Perlman D (Eds.). Loneliness. A sourcebook of current theory, research and therapy. New York. John wiley and sons :1-20.
15. Pinquart M, Sorensen S (2001) Influences on loneliness in older adults. A meta analysis. *Basic and Applied social psychology* 23: 245-266.
16. Cacioppo JT, Crawford EL, Burleson M, Kowalewski R (2002) Loneliness and health. *Psychosomatic Medicine* 64: 407-417.
17. World Health Organization. Investing in Mental health Geneva, WHO 2003.
18. World Health Organization. The Mental health context. Mental health policy and service guidance package. Geneva WHO, 2003.
19. Cornwell EY, Waite LJ (2009) Social Disconnectedness, Perceived Isolation, and Health among Older Adults. *J Health Soc Behav*. Mar 50: 31-48.
20. Cacioppo JT, Hughes ME, Waite L J, Hawkey LC, Thisted RA (2006) Loneliness as a Specific Risk Factor for Depressive Symptoms: Cross-Sectional and Longitudinal Analyses. *Psychology and Aging* 21: 140-51.
21. Nordin NM, Talib MA, Yaacob SN (2009) Personality, loneliness and mental health among undergraduates at Malaysian Universities. *European Journal of Scientific research* 36: 285-298.
22. World Health Organization, Executive Board 124th session. Provisional Agenda item 4.3. HIV and mental health 2008. Geneva, WHO.
23. Taylor DW (1994) The calculation of sample size and power in planning experiments. Department of epidemiology and biostatistics. McMaster University. Hamilton Ontario, Canada 1-23.
24. Goldberg D and the institute of psychiatry. The General health questionnaire-12. Published by GL assessment 1981 (first published 1978). The Cheswick center, 414 Cheswick road, London.
25. Okwaraji FE, Aguwa EN (2014) Burnout and Psychological distress among nurses in a Nigerian tertiary health institution. *African Health Science* 14: 237-245.
26. Adekola B (2012) Work Burnout Experience among University Non Teaching Staff: A Gender Approach. *International Journal of Academic Research in Business and Social Sciences* 2: 128-135.
27. John OP, Donahue EM, Kentle RL (1991) The Big five inventory. Berkley. University of California, Berkeley institute of personality and social Research.
28. Russell DW (1996) UCLA Loneliness scale (version 3) Reliability, validity and factor structure. *Journal of personality Assessment*. 66: 20-40.

29. National Agency for the Control of AIDS. Global AIDS Response; Country Progress Report – Nigeria 2014.
30. Sale S, Gudanya M (2008) Prevalence and factors associated with depression in HIV/AIDS patients aged 15-25 years at the Aminu Kano teaching hospital, Nigeria. *Journal of child and adolescent mental health*, 20: 95-99.
31. Russell DW (1996) UCLA Loneliness scale (version 3) Reliability, validity and factor structure. *Journal of personality Assessment* 66: 20-40.
32. Erozkhan A (2011) The attachment styles bases of loneliness and depression. *International journal of psychology and counseling* 3:186-193.
33. Ouellette SC and DiPlacido J. Personality's role in the protection and enhancement of health: Where the research has been, where it is stuck, how it might move.2001. In Baum A, Revenson TA, Singer J (Eds.). *Handbook of health psychology*. Mahwah, N.J: Lawrence Erlbaum Associates, PP.175-194.