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Research Article

HIV Prevalence, Treatment Availability and Outcomes among a Vagrant Psychotic Population

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ABSTRACT

Background: The association of HIV and psychosis has been established but there had been few research interests on the characteristics of HIV among a vagrant psychotic population during especially in resource-poor settings.

Aim: To determine the Prevalence rates, Treatment Availability and Outcomes of HIV among a vagrant sample population.

Materials and Methods: In this experimental and cross sectional descriptive study, samples were collected from 101 homeless mentally ill patients who were evacuated from 3 major towns of Eket, Ikot Epene and Uyo, in Akwa Ibom State, by the Ministry of Women affairs and Social Rehabilitation, for Intervention over a 3-month period (October-Dec, 2017). A Rapid HIV Testing was used and the sequential (serial) rapid testing algorithm widely used in Nigeria was employed. HIV screening was performed using the rapid test Determine HIV-1/2 Assay kit was used for screening. If the test was positive, a second test, Uni-Gold test Kit was used as a confirmatory test. If both were positive, the participant was confirmed HIV infected. If the test result was negative, the participant was diagnosed HIV negative. HIV-1/2 STAT Pack Dipstick assay was used as a tie breaker.

Results: showed that out of the 101 patients reviewed, there was a preponderance of males with frequency of 62.4%. The minimum and maximum ages of those considered were 8 years and 44 years respectively, with the most predominant age range being 26-30 years and 31 (30.7%) patients and 59 (58.4%) % were below 30 years. Ninety participants (89.1%) were unemployed, 88 (87.1%) were from the Ibibio/Annang tribe and 68 (67.3%) had primary level of education. Out of the 16 (15.8%) subjects that were confirmed to be HIV positive, 4(4%) were males, 12 were females and this was statistically significant ($X^2 = 11.3$, $p = 0.001$) while 12 (11.8%) were in the age group 21-30. Futile attempts were made to initiate treatment for the retropositive subjects, as the General hospital, adjacent to the hospital refused to review or commence HAART treatment. All the Five (5.0%) that died during the study were HIV positive ($X^2 = 24.2$, $p = 0.000$). 80 (79.2%) were discharged and reintegrated with their relatives, 8 (7.9%) absconded, 3 (3.0%) were taken to home for the children, while 5 (5.0%) patients abandoned. Logistic regression identified sex as the predictor variable to HIV status ($p = 0.003$, OR = 9.12 95% CI = 2.13-38.8).

Conclusion: The co-occurrence of HIV and serious mental illness means that integration of HIV prevention, testing and care in mental health care services, confers both individual and public health benefits. However, inability of HIV Infected vagrants to access Anti-retroviral treatment care, affects negatively the outcome of Retroviral Disease increasing mortality.

Keywords: HIV; Vagrant, Psychotic; Rapid diagnostic tests; Treatment availability; Outcome

INTRODUCTION

Persons with severe mental illness are known to be vulnerable to HIV infection [1]. Psychosis and HIV/AIDS are co-morbid in some subjects, because of the strong link between mental illness and HIV/AIDS [1]. Their association might be simply coexisting or complex - psychosis enhances the risk to contract or protract HIV infection, and HIV/AIDS increases the risk to develop psychosis in terms of direct effect of HIV on CNS or prescribed medications [1]. Factors such as sexual abuse, homelessness and impaired judgment regarding sexual relationships, use of alcohol and other drugs of abuse make psychiatric patients vulnerable to enter casual or coercive sexual relationship, thereby increasing the risk of contracting HIV infection [2].

It has also been previously reported that psychosis is more common among people with HIV infection than in the general population [3]. Factors that has been identified as contributing may include direct effect of HIV on CNS, opportunistic infections, CNS neoplasm, medications, substance use disorders and other psychological stressors [3]. Psychosis may precede HIV infection or HIV infection may cause psychosis either directly or indirectly, or a common etiologic factor may predispose to both HIV infection and psychosis and a multi-factorial etiology is much likely [4].

It was found that in a related study, that co-occurrence of HIV infection was a frequent finding in first-episode psychotic individuals residing in a high-prevalence HIV setting [5]. These individuals are more likely to have an underlying medical condition precipitating the onset of psychosis, not to have been initiated on antiretroviral therapy and to present with a low CD4 cell count and high HIV viral load [5,6]. 50% or more of patients in a previous study with HIV/AIDS have co-morbid psychiatric disorder [7]. The prevalence of Mental illness in patient's with HIV/AIDS is 8 times higher than in those without HIV/AIDS [7]. Psychotic Disorder due to HIV infection may occur at any stage but are usually late complications of HIV infection [8], and pose a dilemma as to whether the presentation is organic or functional. The high co-prevalence suggests a possible etiological association between HIV infection and psychosis [9].

HIV Rapid Diagnostic Tests (RDTs) are usually designed to be used as screening tests with a positive result being confirmed by more specific methods [10]. These tests will be employed in this vulnerable group. This is so because many people with HIV, do not know their HIV status and do not know they are infected [5]. And this fact is even worse for the severely mentally ill and homeless people, which makes the need for such diagnosis necessary as part of an integrated approach to care.

Few studies from available literature had looked at HIV/AIDS prevalence rates among homeless psychotic patients, because of limited research interests in the area of the association between HIV and psychosis. This article therefore offers an opportunity to add to the body of knowledge in this regard.

MATERIALS AND METHODS

Location of study

The study was carried out at Psychiatric Hospital, Eket, located in the city of Eket local government area of Akwa Ibom State, Nigeria. It was carved out of Immanuel Hospital, where it was a unit in internal Medicine but established as a fully-fledged hospital 30 years ago in 1987. It is the only psychiatric hospital in Akwa Ibom state and serves the state and some of the South South Nigerian states. The city of Eket is estimated by the population census of 2011 to have a population of 204,890, according to the website of National Population Commission.

Sample

One hundred and one (101) homeless mentally ill patients who were evacuated from 3 major towns of Eket, Ikot Epene and Uyo, in Akwa Ibom State, by the Ministry of Women affairs and Social Rehabilitation, as a phase of Critical Time Intervention over a 3-month period (October-Dec, 2017).

Sampling

Purposive (Non-probability) sampling technique was used to assess all consecutive patients on the Akwa Ibom State Vagrants Rehabilitation programme, after 2 months of treatment when they were able to give consent.

Study design

This is an experimental and cross-sectional descriptive study of HIV status in consecutive patients being treated as part of critical time intervention by the Ministry of Women Affairs and Social Welfare in collaboration with Psychiatric Hospital Eket.

Inclusion criteria

All participants of the Vagrant psychotic rehabilitation, (October-December 2017) who were able to give consent.

Exclusion criterion

Psychiatric patients on admission before this phase of rehabilitation were not considered. Those with mental incapacity to give informed consent were also excluded.

DATA COLLECTION

Participants were HIV-tested, and interviewed using a structured questionnaire.

MEASURES

HIV status

A Rapid HIV Testing was used and the sequential (serial) rapid testing algorithm widely used in Nigeria was employed. HIV screening was performed using the rapid test Determine HIV-1/2 Assay kit was used for screening. If the test was positive, a second test, Uni-Gold test Kit was used as a confirmatory test. If both were positive, the participant was diagnosed HIV infected. If the test result was negative, the participant was diagnosed HIV negative. HIV-1/2 STAT Pack Dipstick assay was used as a tie breaker [5].

Demographic characteristics

A questionnaire was administered to elicit to elicit demographic variables known to be associated with HIV status among the vagrant psychotics. Variables used include: sex, age, educational qualification, tribe, occupation and marital status.

ETHICAL CONSIDERATIONS

All study procedures were approved by the Psychiatric Hospital Eket, Ethics Committee. Consent forms were obtained to clarify that participation was voluntary, that participation would not in any way influence the future care given, and that participants had the right to withdraw at any time. Before informed consent was sought, participants were informed that their HIV test result would be disclosed to the psychiatrist in charge. Participants diagnosed HIV-infected were referred to the HIV clinic at Immanuel General Hospital, Eket, where antiretroviral medication was available but denied these vulnerable vagrant population. No compensation was paid to any participant, before, during or after the duration of the study.

Statistical analysis

Data were analyzed using SPSS version 20. Descriptive analysis was carried out and the chi-square test was performed for the analysis of categorical data. All variables with *p*-values equal to or less than 0.05 was considered statistically significant.

RESULTS

During the study period, 101 persons, 63 (62.4%) males, 38 (37.6%) females) were evaluated. The results describes findings from these participants that gave consent in the 3rd month of their hospital stay. Patients of age group 21-25 years, had higher prevalence of HIV infection. Religion was a constant as all the participants were Christians. Table 1 shows the Socio-demographic characteristics of the vagrant psychotics evaluated.

Prevalence of HIV

16 persons (4 men, 12 women) were diagnosed to be HIV-

Table 1: Sociodemographic characteristics of subjects.

Variable	Frequency (n)	%	X^2	*p* (< 0.005)
AGE				
≤15	4	4.0		
16-20	14	13.9		
21-25	28	27.7		
26-30	31	30.7		
31-35	12	11.9		
36-40	8	7.9		
>40	4	4.0		
SEX				
M	63	62.4		0.001
F	38	37.4		
MARITAL STATUS				
Single	91	90.1		
Maried	5	5.0	1.03	0.59
Divorced/Separated	5	5.0		
TRIBE				
Ibibio/Annang	88	87.1		
Ibo	5	5.0	0.26	1.00
Yoruba	1	1.0		
Others	7	6.9		
OCCUPATION				
Unemployed	90	89.1		
Self –employed	10	9.9	1.82	0.40
Employed (Public Service)	1	1.0		
EDUCATION				
Primary	68	67.3		
Secondary	17	16.8	3.29	0.19
No formal education	16	15.8		
TOTAL	101	100		

infected. HIV prevalence was 15.8% overall (4% in men and 11.9% in women) and that is statistically significant (X^2 =11.3, df = 1, p = 0.000) (Table 2).

Socio-demographic correlates of HIV

Females had higher risk of HIV infection than males, after adjustment for age (OR 9.12; 95% CI 2.13-38.8), see table 3. Tribe, marital status, education and occupation were not associated with HIV status.

Outcomes of HIV/AIDS among vagrant psychotics

Out of the 16 people identified to have HIV, 11(10.9%) were discharged and reintegrated while 5 (5.0%) died. The other 69 (68.3%) discharged were HIV negative. Similarly the 5 (5.0%) abandoned, 3 (3.0%) taken to home for the children, 8 (7.9%) that absconded were not seropositive. This is illustrated in figure 1 below.

DISCUSSION

It is noteworthy that establishing a causal relationship between HIV infection and psychiatric morbidity may be difficult. Yet, regardless of which illness comes first, their co-occurrence is associated with higher morbidity and mortality than expected with either illness alone [10].

Table 2: Prevalence of HIV/AIDS based on sex.

HIV Status			Sex		Total
			M	F	
HIV status	Positive	Count	4	12	16
		Expected Count	10.0	6.0	16.0
		% within HIV Status	25.0%	75.0%	100.0%
		% within Sex	6.3%	31.6%	15.8%
		% of Total	4.0%	11.9%	15.8%
		Residual	-6.0	6.0	
		Std. Residual	-1.9	2.4	
	Negative	Count	59	26	85
		Expected Count	53.0	32.0	85.0
		% within HIV Status	69.4%	30.6%	100.0%
		% within Sex	93.7%	68.4%	84.2%
		% of Total	58.4%	25.7%	84.2%
		Residual	6.0	-6.0	
		Std. Residual	.8	-1.1	
Total		Count	63	38	101
		Expected Count	63.0	38.0	101.0
		% within HIV Status	62.4%	37.6%	100.0%
		% within Sex	100.0%	100.0%	100.0%
		% of Total	62.4%	37.6%	100.0%

Table 3: Logistic Regression of the Sociodemographic Predictors of HIV/AIDS.

Variable	B	SE	Wald	Df	Sig (p < 0.005)	Or	95% CI Lower	Upper
Age	0.14	0.32	0.19	1	0.66	1.15	0.62	2.14
Sex	2.21	0.74	8.93	1	0.003	9.12	2.13	38.8
Tribe	-2.43	1.99	1.48	1	0.22	0.08	0.02	4.4
Education	0.64	0.92	0.48	1	0.48	1.88	0.32	11.33
Marital Status	0.38	1.66	0.05	1	0.82	1.46	0.06	38.2

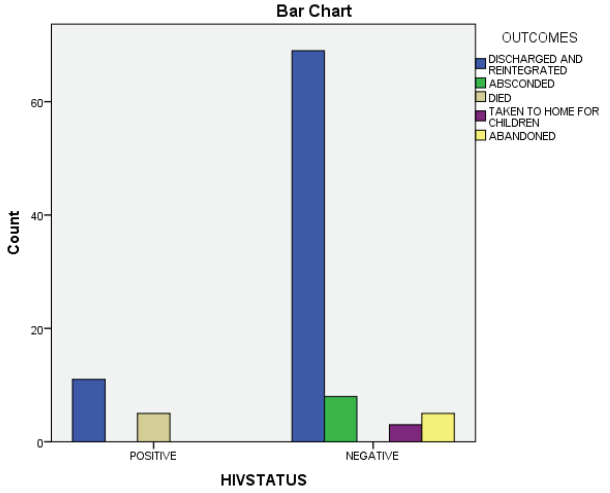

Figure 1: Shows outcomes of HIV among vagrant psychotics.

In this study, all the patients that died were diagnosed with HIV/AIDS. Mortality may be due to the fact that serious mental illness is associated with a more rapid and harder-to-treat progression of HIV disease [10]. In addition, individuals with serious mental illness may be more susceptible to the stresses related to HIV infection and may have fewer resources to address these issues [1,5,11]. Psychotic symptoms in HIV infection can be a part of delirium, dementia or any other organic brain syndrome and can contribute to difficulties in medical care and residential placement. Individuals with psychosis show greater neuropsychological impairment, higher rates of stimulant abuse and higher mortality rate at follow up [1,11].

Those identified to be seropositive in this study population could not access HIV/AIDS treatment, despite futile attempts made. This is consistent with the finding in a related study that patients with Serious Mental Illness often find it difficult to access adequate medical care [10,11,12]. It has also been shown in a related study that diseases such as HIV may lead to greater morbidity and mortality in patients with serious mental illness than in the general population because such patients may have difficulty in explaining symptoms to medical personnel and complying with medical care, and may receive less attention from medical personnel about physical complaints [5,11]. As has been found in a previous study, HIV infection and SMI co-morbidity appear to be detrimental for medication adherence [5,11]. However, there is need to access the patients individually, without perceived bias regarding their ability to follow an antiretroviral regimen. It has also been suggested that involving significant others, using Directly Observed Therapy (DOT) will be useful strategies to ensure or improve adherence [12,13].

The prevalence of HIV/AIDS among this group is in keeping with the estimation in a related study, that the prevalence of HIV among individuals with a Serious Mental Illness (SMI), ranges from 1 percent to 24 percent [14]. It is also consistent with the finding that psychiatric patients have substantial rates of HIV seropositivity, ranging 3%-23% [15,16]. It is however less than the comparative seropositivity rate in India which is currently put at 2.11%, though lower than that in the West, it is alarming considering the increase from 0.47% in 1993 to 5.33% in 1997 [17]. The prevalence rate for HIV/AIDS was higher among females in this study. This may be consistent with the finding that occurrence of sexual coercion and abuse of severely mentally ill increases the HIV risk among women

[17]. The HIV burden In Nigeria varied between 1.8% in 1991 to 3.34% in 2001, increasing to 5.8% in 2001 and dropped to 4.1% in 2010 [18]. No mention was made about HIV prevalence among homeless mentally ill in that report. Another report from South West Nigeria, reported that female vagrant patients were more prone to sexual abuse and greater risk of contracting HIV/AIDS but no mention was made of the prevalence of HIV among this group in this report [19].

Therefore the findings of the high prevalence of HIV infected individuals among the serious mentally ill, requires us to be vigilant not only of the medical problems resulting from HIV infection itself, but also the mental health needs of these patients. Consequently, with the knowledge that HIV seropositive persons with a co-occurring mental illness are at risk for several negative outcomes, it is therefore expected of us as providers to serve our patients well by caring for all of their health needs, both physical and mental.

CONCLUSION

The co-occurrence of HIV and mental illness poses a significant public health problem and represents a difficult challenge for those who treat and care for these persons. The excess HIV prevalence in this vagrant psychotic population is mainly confined to women and faced difficulties accessing HIV/AIDS care. HIV care should be incorporated in the care of the chronically mentally ill, with the integration of HIV prevention, testing and care in mental health settings and retro positive mentally ill patients, should not be rejected in Anti-Retroviral Clinics because they can benefit from the Highly Active Retroviral Drugs.

RECOMMENDATIONS

Specifically, it is important for practitioners treating HIV-infected individuals to be aware of the high likelihood of co-morbid mental health conditions, have a basic understanding of the diagnosis and treatment of these conditions, and be prepared to partner with mental health professionals in the treatment of affected individuals. Likewise, it is important for individuals with SMI to be tested for HIV, which confers both individual and public health benefits. Psychiatrists are in a better position to actively educate their patients on prevention of HIV infection. Laboratory quality assurance programs and the participation in HIV proficiency testing programs are essential to ensure that diagnostic laboratories provide accurate, timely and clinically relevant laboratory results. Moreover, further research is needed to clarify the mechanisms underlying the increased HIV prevalence in women with chronic mental illness associated with homelessness.

LIMITATIONS

Small sample size, Lack of capacity to carry out CD4 Count or Viral load among participants and inability to access treatment for the retro positive participants.

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