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The prevalence of common mental disorders among South Africans seeking HIV testing

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Abstract

We administered the Structured Clinical Interview for the DSM (SCID) to 485 persons seeking HIV testing at five community testing centres in South Africa to determine the prevalence of common mental disorders among this population. The prevalence estimates for the various disorders were as follows: major depressive disorder: 14.2% (95% CI [11.1, 17.3]); generalised anxiety disorder 5.0% (95% CI [3.07, 6.93]); posttraumatic stress disorder 4.9% (95% CI [2.98, 6.82]); and alcohol use disorder 19.8% (95% CI [16.26, 23.34]). Our findings imply the need to research the integration of screening and referral trajectories in the context of voluntary HIV counselling and testing.

Keywords

Mental disorders; South Africa; depression; anxiety; post-traumatic stress

Introduction

In many public health clinics in South Africa, HIV testing has become an increasingly routine practice. As a result, large numbers of persons who receive an HIV positive test result and who qualify for treatment have been enrolled in the national antiretroviral therapy programme. Little research has been conducted on the temporal relationship between common mental disorders and an HIV diagnosis. It is therefore unclear whether mental health problems exist prior to receipt of an HIV positive test result or whether an HIV diagnosis precipitates the onset of a common mental disorder. To this extent, the prevalence, incidence and duration of psychiatric disorders and psychological distress among persons seeking HIV testing is understudied. Mental health problems, especially mood disturbance, have been shown to negatively affect test-seeking behaviour, initiation on treatment, and adherence to antiretroviral treatment (25).

While mental health research among HIV test seekers is sparse, two notable exceptions are the recent work of Ramirez-Avila et al (2012) and of Cholera et al (2014) who investigated

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Compliance with Ethical Standards: Research involving human participants and/or animals: All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

Informed consent: Informed consent was obtained from all individual participants included in the study

the prevalence of depressive symptoms among individuals seeking HIV testing in Durban and Johannesburg, South Africa, respectively. Ramirez-Avila et al (2012) studied the prevalence and correlates of depressive symptoms among South Africans who sought an HIV test and received a positive test result. These authors assessed participants using a domain of the SF-36, i.e. the five-item Mental Health Index (MHI) (28). The MHI yields a total score which may then be categorised in terms of the severity of depression symptoms. Thus, Ramirez-Avila's et al's (2012) study examined depressive symptoms rather than DSM5-based caseness for a common mental disorder. These authors found that 55% of their sample had depressive symptoms based on their MHI-5 score. Further, depressed individuals referred for HIV testing were less likely to obtain a CD4 count than those who were not depressed, suggesting that depressive symptoms may negatively impact health seeking behaviour (26).

Cholera et al's (2014) study of depression was a validation study of the Patient Health Questionnaire (27) against the MINI International Neuropsychiatric Interview (29) as a gold standard and was conducted among primary health care patients who received an HIV test. On the PHQ, 32% of the study sample reported no depression; 18% had moderate depression; 5% had severe depression; and 1% had very severe depression (27). On the MINI, 11.8% met the diagnostic criteria for a current major depressive episode, indicating a non-trivial rate of mood disturbance among this sample.

Both of these studies (26; 27) focused only on depression or depressive symptoms and our study extends this line of research. We report on the prevalence of common mental disorders, namely, major depression, generalised anxiety, posttraumatic stress, and alcohol use disorder among individuals seeking HIV testing at voluntary counselling and testing sites in the Western Cape province of South Africa.

Method

Participants

Participants were recruited by means of convenience sampling at five HIV testing sites in the Western Cape province of South Africa. Testing sites are funded by the provincial Department of Health and conduct outreach testing activities in various parts of the province. Testing site personnel set up temporary centres in public areas such as shopping centre parking lots and public transport centres and invite community members to receive a free HIV test. In this context, as individuals presented themselves for HIV testing, they were invited to participate in the study.

Procedures

Once HIV test-seekers registered at the reception desk of the testing site, they were handed a flyer informing them of the study and inviting them to meet with a researcher in a private space such as a room, tent, or caravan at the testing centre. Those who agreed were informed about the study, invited to participate prior to undergoing HIV testing, and asked to complete an informed consent form. Eligibility criteria included not being floridly psychotic and being able to understand the interview questions. All but a few test-seekers who agreed to meet

with the researcher were conversant in English, even though for many English was their second language. If it was apparent that a potential participant was unable to understand English, he or she was not included in the study. This was the case with 40 potential participants.

Data collection

The following modules of the Structured Interview Schedule for the DSM (Research Version) (SCID-RV) were administered to participants: major depressive disorder, generalised anxiety disorder, posttraumatic stress disorder, and alcohol use disorder. All data-collectors received extensive training in administering SCID-RV interviews. The SCID-RV interview questions were placed on a web-based platform so that interviewers could record participants' responses on a Lenovo tablet. The data were then automatically imported into an Excel file and stored.

Ethical considerations

The study was approved by the Stellenbosch University Health Ethics Committee. All participants were asked to sign an informed consent form. Those participants found to have clinically significant distress or to have a mental disorder were referred to a local mental health centre.

Instrument

In its present form, the SCID-RV questions correspond to the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition, Text Revised (DSMIV-TR). The DSM-V was released in 2014 but the version of the SCID corresponding to this DSM edition was still under development at the time of the study. We therefore, in consultation with one of the SCID developers, Dr. Michael First, adapted the SCID questions where necessary so that they corresponded to the DSM-V diagnostic criteria. Before commencing with the study, we conducted a pilot study to assess the comprehensibility and feasibility of the SCID among members of the population under study. The results of the pilot study indicated that the SCID could be appropriately used among South African HIV test-seekers.

Data Analysis

The data were entered into SPSS version 22. We calculated the prevalence estimates for major depressive, generalised anxiety, posttraumatic stress, and alcohol use disorders using a confidence interval of 95%. The results were calculated as frequencies, means, and standard deviations. We used the Chi-square test to compare the prevalence of major depressive, generalised anxiety, posttraumatic stress and alcohol use disorder between male and female participants. Missing data were imputed by means of the Markov Chain Monte Carlo method of estimation.

Results

Description of the sample

The sample consisted of 485 participants of which 49.1% were males and 50.9% were females, with a mean age of 36 years. As shown in Table I, most participants (72.0%) classified themselves as mixed race (Coloured), followed by 26.8% African and 0.8% White. Most participants (68.5%) indicated that Afrikaans was their first language, while 6.0% and 20.0% stated that English and Xhosa were their first languages, respectively. A large proportion of the sample (47.0%) indicated that they were unemployed and had a family income of less than R10 000 (40.0%) per annum.

Prevalence of CMDs

Table II, presents the prevalence estimates of the various disorders assessed. As can be seen, the prevalence estimates were as follows: major depressive disorder 14.2% (95% CI [11.1, 17.3]); generalised anxiety disorder 5.0% (95% CI [3.07, 6.93]); posttraumatic stress disorder 4.9% (95% CI [2.98, 6.82]); and alcohol use disorder 19.8% (95% CI [16.26, 23.34]). Of the sample, 26.7% (95% CI [22.77, 30.63]) were diagnosed with at least one disorder, 6.8% (95% CI [4.56, 9.04]) were diagnosed with two disorders and 1.2% (95% CI [0.23, 2.17]) with three disorders.

As can be seen in Table III, chi-square analysis indicated non-significant differences between males and females in the prevalence estimates among the disorders assessed, with the exception of generalised anxiety disorder.

As shown in Table IV we found no significant association between employment status and common mental disorders among the study participants.

As can be seen in Table V, we found no significant association between income level and the occurrence of common mental disorders.

Discussion

We found that 26% (95% CI [22.77, 30.63]) of our sample of HIV test-seekers met the criteria for at least one of the common mental disorders that we assessed, with non-significant gender differences in prevalence rates. The most common psychiatric disorder found among the sample was Alcohol Use Disorder (19.8%) followed by Major Depressive Disorder (14.2%), Generalised Anxiety Disorder (5.0%), and Post Traumatic Stress Disorder (4.9%). As can be seen in Table 3, the observed prevalence rates for common psychiatric disorders among the sample were higher than expected given what is known about the prevalence of psychiatric conditions among the general population of South Africa. For example, a study investigating the prevalence of DSM-IV psychiatric conditions among a large sample ($n = 4351$) of adults in the general population found that the 12-month prevalence of Major Depressive Disorder was 4.9%, while the rates for PTSD and Generalized Anxiety Disorder were 0.6% and 1.4% respectively (22). Similarly, the 12-month prevalence of Alcohol Abuse and Alcohol Dependence among the general population

was reported at 4.5% and 1.2%, while the 12-month prevalence of any mental disorder was 16.5% (22).

After participating in the SCID interview, all of our participants received an HIV test. As we report, in a substantial number of cases, a common mental disorder existed prior to receipt of the HIV test. For those testing HIV positive, this result was clearly neither the cause nor the precipitant of the mental disorder. This finding provides tentative evidence that at least for some persons living with HIV, receipt of an HIV positive test result was not cause of their mental disorder.

Much of the psychological literature has assumed that receipt of an HIV positive result may cause the infected person to become depressed, traumatised, or in some way psychologically disordered and that psychiatric or psychological treatment is indicated following receipt of an HIV positive test result (1, 2, 3). Indeed, psychiatric conditions such as major depression and generalised anxiety disorder appear to be common among persons living with HIV (4, 5). In a study among South African HIV-infected persons, 34.9% had major depression while 21.5% had dysthymic disorder as assessed by the MINI International Psychiatric Interview (6). In a 6-month follow-up study of this sample, 26% continued to meet the criteria for depression (3). Among another sample of South African AIDS patients, 33.4% reported symptoms of anxiety and depression, compared with 24.2% in a randomly selected community sample (7). In a study conducted with 465 patients enrolled in HIV care and treatment services in a major South African city (mean age of sample was 33 years, 75% were female, and 74.4% were unemployed), the prevalence of depression as assessed by the Mini-International Neuropsychiatric Interview (MINI) was 14% (8). Using the Composite International Diagnostic Inventory (CIDI), Freeman, Nkomo, Kafaar, & Kelly (2007) found that among 900 HIV positive persons, 43.7% had a mental disorder and 11.1% had major depressive disorder (9). By these accounts, many individuals living with HIV may have a mental disorder. The above studies recruited samples after they had received an HIV diagnosis and thus it was indeterminable whether these mental health problems were precipitated by the receipt of an HIV positive diagnosis or if they were already evident prior to receiving an HIV positive test result. Our study helps to elucidate this temporal relationship.

Understanding the onset of psychiatric symptoms among persons who receive an HIV positive test result is important in light of studies that show that adherence to antiretroviral treatment is strongly influenced by the presence of psychiatric symptoms (24, 25). Similarly, among persons who receive an HIV negative test result, this understanding is also important as persons with a mental disorder are more vulnerable to risk behaviours and therefore of contracting HIV in the future than those without a mental disorder(21).

It is our view that HIV does not necessarily precipitate a CMD such as major depression, generalised anxiety, posttraumatic stress disorder (10). For example, while persons who receive an HIV positive test result are likely to become emotionally distressed, major depression is not necessarily a response. Instead, a previous episode of depression is likely to be a superior predictor of depression rather than the HIV test result itself (11). Also, PTSD is a disorder of memory in which the symptoms of avoidance, intrusion, and

physiologic hyperarousal are anchored to the traumatic event that occurred in the past. Concerns typically associated with receipt of an HIV positive test result are future-oriented, such as impending decline in health status, accessing treatment, finding information about the condition, and negotiating barriers to medication adherence (12). While elevated levels of psychological distress may be common, this is qualitatively and quantitatively different from a common mental disorder. Nonetheless, psychosocial counselling is often helpful in resolving distress, providing information, and planning ways to access treatment and appropriately disclose to others.

Individuals respond to receipt of an HIV positive test result in a variety of ways and have various experiences depending on their circumstances and the reactions of others. Common experiences include disclosure of their HIV status to others (13), stigma and discrimination (13; 14), medical care-seeking (15), and commencement of anti-retroviral therapy. These aspects of living with HIV are likely to be influenced by various social and structural barriers to medical help-seeking and treatment adherence such employment status, food insecurity, transport, and challenges in the public health care system (16,17, 18, 19, 20). If individuals who receive a positive HIV test result also have a CMD at the time of testing, they may experience difficulties in negotiating the various challenges associated with living with HIV and successfully seeking treatment. Such difficulties may result in virologic failure which in turn may result in AIDS-related illnesses, inability to attend to activities of daily living including child care, worker absenteeism, frequent hospitalisations due to opportunistic infections, consequent burden on the health care system, and untimely death (12).

Given our findings of non-trivial rates of mental disorders among this sample, it may be argued that persons seeking HIV testing should be the focus of targeted psychological interventions. One possibility is routine screening for common mental disorders and appropriate referral to mental health care services in cases where further assessment and treatment are indicated. Yet, such an approach is potentially controversial as it is unclear that screening instruments are able to accurately identify individuals who meet the diagnostic criteria for a mental disorder under conditions of routine care (23). Given the logistical, financial and capacity limitations in the South African public health system, it may be difficult to integrate routine mental health screening procedures with HIV testing. Yet, at the very least, ensuring that staff working in HIV testing sites are able to recognise individuals in need of a psychiatric referral and are informed about appropriate psychiatric referral pathways is appropriate.

Limitations and strengths of the study

Interviews were conducted only in English and 40 potential participants who were not conversant in English were excluded from the study. Even though English was not the first language for the majority of participants, all those enrolled in the study were conversant in the language and able to understand and respond to interview questions.

As the study was conducted in the Western Cape region of South Africa, we are cautious about generalising our results to the population of South African test-seekers. In other parts of South Africa demographic, class, cultural and linguistic factors are different from those in

the Western Cape where the study was conducted, making generalisation difficult. Nonetheless, it is likely that our sample is at least representative of individuals seeking HIV testing in peri-urban non-medical testing sites in the Western Cape.

Despite these limitations, we believe our study also demonstrates specific strengths. First, we used a gold standard method of making determinations of caseness, namely the SCID-RV, which in the context of HIV and mental health research, is rare. Second, participants were recruited prior to rather than following HIV testing, which is also unique in terms of the existing body of research. Finally, a benefit of the study was that participants who were found to be psychiatrically disordered received a mental health referral, which would otherwise not have occurred.

Conclusion

This research is one of the few South African studies to assess the prevalence of common mental disorders of persons seeking HIV testing. It appears from our data that a substantial proportion of HIV test seekers may have an existing mental disorder that is likely to go undetected and therefore untreated. The integration of mental health care with HIV testing, including screening and referral, with HIV testing is an area for further research and possible implementation. It is also possible given our findings that HIV test-seekers may benefit if testing site personnel were to receive training to recognise and refer persons who display symptoms of common mental disorders.

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Table I
Demographic Characteristics of the Sample

	Number of respondents (n = 485)	% of total sample
Gender		
Male	238	49.1
Female	247	50.9
Age (years)		
18 – 19	26	5.4
20 – 29	147.2	30.4
30 – 39	138.4	28.5
40 – 49	96.2	19.8
50 – 71	77.2	15.9
Race		
African	130	26.8
Coloured	349	72.0
White	4	0.8
Other	2	0.4
First language		
Afrikaans	332	68.5
English	29	6.0
Xhosa	97	20.0
Other	27	5.5
Current work situation		
Employed fulltime	95	19.6
Employed part-time	101	20.8
Unemployed	228	47.0
Homemaker	11	2.3
Student	28	5.8
Disabled	6	1.2
Retired	16	3.3
Annual family income		
Less than *ZAR10 000	194	40.0
ZAR 10 001 – ZAR40 000	199	41.0
ZAR 40 001 – ZAR 80 000	56	11.5
ZAR 80 001 – ZAR 110 000	20	4.1
ZAR 110 001 – ZAR 170 000	8	1.6
ZAR 170 001 – ZAR 240 000	5	1.0
ZAR 240 000 and above	3	0.6

* 10ZAR = 1USD

Table II
Prevalence of major depressive, generalised anxiety, posttraumatic stress and alcohol use disorder

	Total population	%	95% CI
MDD	69	14.2	[11.1, 17.3]
GAD	24.2	5.0	[3.07, 6.93]
PTSD	24	4.9	[2.98, 6.82]
AUD	96	19.8	[16.26, 23.34]
1 Disorder	129	26.7	[22.7, 30.6]
2 Disorders	32.8	6.8	[4.56, 9.04]
3 Disorders	6	1.2	[0.23, 2.17]

Note. CI = confidence interval

Table III
Comparison of the prevalence of major depressive, generalised anxiety, posttraumatic stress and alcohol use disorder between males and female

	Male	Female	χ^2	* p value
MDD	44.9%	55.1%	0.55	0.46
GAD	27.3%	72.7%	4.68	0.03
PTSD	37.5%	62.5%	1.35	0.26
AUD	54.2%	45.8%	1.24	0.27

* p < 0.05

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Table IV
Comparison of the prevalence of major depressive, generalised anxiety, posttraumatic stress and alcohol use disorder between employed and unemployed participants

	Employed full time	Employed part time	Unemployed	χ^2	* p value
MDD	20.3	17.4	59.4	9.74	0.14
GAD	22.3	19.8	49.6	2.00	0.92
PTSD	16.7	25.0	58.3	4.17	0.65
AUD	15.6	20.8	55.2	9.41	0.15

* p > 0.05

Table V
Comparison of the prevalence of major depressive, generalised anxiety, posttraumatic stress and alcohol use disorder and income level

	Less than R10 000	R10 001-R40 000	R40 001-R80 000	R80 001-R110 000	R110 001-R170 000	R170 001-R240 000	R240 001 and above	χ^2	* p value
MDD	34.8	47.8	7.2	8.7	0	0	1.4	9.87	0.13
GAD	27.3	54.5	14.0	4.1	0	0	0	3.54	0.74
PTSD	45.8	33.3	8.3	12.5	0	0	0	5.93	0.43
AUD	40.6	40.6	11.5	5.2	1.0	1.0	0	1.37	0.97

* p < 0.05