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Interrater reliability of the Psychiatric Research Interview for Substance and Mental Disorders in an HIV-infected cohort: experience of the National NeuroAIDS Tissue Consortium

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Abstract

The interrater reliability of the Psychiatric Research Interview for Substance and Mental Disorders (PRISM) was assessed in a multicentre study. Four sites of the National NeuroAIDS Tissue Consortium performed blinded reratings of audiotaped PRISM interviews of 63 HIV-infected patients. Diagnostic modules for substance-use disorders and major depression were evaluated. Seventy-six per cent of the patient sample displayed one or more substance-use disorder diagnoses and 54% had major depression. Kappa coefficients for lifetime histories of substance abuse or dependence (cocaine, opiates, alcohol, cannabis, sedative, stimulant, hallucinogen) and major depression ranged from 0.66 to 1.00. Overall the PRISM was reliable in assessing both past and current disorders except for current cannabis disorders when patients had concomitant cannabinoid prescriptions for medical therapy. The reliability of substance-induced depression was poor to fair although there was a low prevalence of this diagnosis in our group. We conclude that the PRISM yields reliable diagnoses in a multicentre study of substance-experienced, HIV-infected individuals. Copyright © 2006 John Wiley & Sons, Ltd.

Key words: interrater reliability, PRISM, HIV

Introduction

Psychiatric and substance-use disorders (SUDs) are highly prevalent in HIV-infected cohorts, and are important factors in HIV-related morbidity and mortality (Atkinson et al., 1988; Williams et al., 1991; Chuang et al., 1992; Rosenberger et al., 1993; Lipsitz et al., 1994; Maj et al., 1994; Perkins et al., 1994; Rabkin et al., 1997a, 1997b, 1997c; Bing et al., 2001; Morrison et al., 2002). Despite the importance of these disorders there is no universally accepted research measure for psychodiagnosis in HIV disease. Three major approaches have been employed: lay-administered, fully structured interviews; clinician-administered, semi-structured measures and questionnaires to elicit psychiatric symptoms, in which cutoff scores are used to infer presence of psychiatric diagnoses. Advantages and disadvantages are inherent in all approaches, with semi-structured measures usually considered the 'gold standard' as their format allows for free interviewing and capitalizes on clinician judgement to determine whether criterion

symptoms should count toward a psychiatric diagnosis.

Clinician judgement is very important for valid diagnosis in medically ill or psychoactive substance-using samples, where somatic symptoms of disease and effects of intoxication or withdrawal from alcohol or drugs might mimic criterion symptoms of major depression (MD) or other disorders. However, drawbacks of clinician-driven measures are their expense and questions of maintaining interrater reliability across clinician interviewers. For this reason, clinician-based measures are usually restricted to single site-studies. In the psychiatric characterization of HIV-infected individuals, we are unaware of any published multi-site studies of the diagnostic reliability of standardized interviews. In HIV disease, with one exception (Maj et al., 1994), psychiatric epidemiology has to date been restricted to large-scale research using questionnaires to infer psychiatric diagnoses (Lyketsos et al., 1996), or to smaller sample, single-site studies (Atkinson et al., 1988; Rabkin et al., 1997a).

The National NeuroAIDS Tissue Consortium (NNTC) is a multisite programme that conducts standardized psychiatric, neurological and neuropsychological assessments of advanced-stage, HIV-infected individuals (Morgello et al., 2001). The consortium has centres in New York, California and Texas and thus represents a spectrum of patient populations and psychiatric services.

In establishing a common means of obtaining psychiatric diagnoses, the NNTC chose the Psychiatric Research Interview for Substance and Mental Disorders (PRISM) because of its focus on comorbidity in the assessment of psychopathology in heavily substance-experienced populations (Hasin et al., 1996). The PRISM shares general features with the Structured Clinical Interview for DSM-III-R (SCID) such as a three-column format and the expectation that after standard 'left-column' probes, additional probes are used as needed to elucidate diagnoses. It diverges from other instruments in that drug and alcohol sections are given early, helping the examiner establish relationships between substance-use and mental disorders, which are subsequently examined. It has thorough elucidation of alcohol and substance consumption patterns from initial utilization. It also provides specific probes and guidelines to differentiate symptoms of primary psychiatric disorders, substance-induced disorders and expected symptoms of intoxication or withdrawal. The PRISM has good test-retest reliability when administered at a single site, with kappa coefficients ranging from 0.49 to 0.94 for individual substance dependencies and 0.56 to 0.81 for affective disorders (Hasin et al., 1996). Its reliability in multiple-site investigations is unknown. Accordingly, we report on the interobserver reliability of the alcohol, drug-use and depression modules of PRISM in a multisite study of heavily drug-experienced individuals infected with HIV.

Methods

Patient population

Patients were a systematically chosen subset of individuals undergoing baseline psychiatric evaluation in the four NNTC programs: the National Neurological AIDS Bank (NNAB) in Los Angeles, the Manhattan HIV Brain Bank (MHBB) in New York City, the California NeuroAIDS Tissue Network (CNTN) in San Diego, San Francisco and Los Angeles and the Texas Repository for AIDS Neuropathogenesis Research (TRAR) in Galveston, Houston and Dallas. Patients were recruited to the NNTC based on their HIV-seropositivity, their willingness to become organ donors at the time of demise, and medical criteria that indicated high short-term likelihood of death (Morgello et al., 2001). After procedures were explained, written consent was obtained from all patients for the conduct of neurological and neuropsychological evaluations and the structured psychiatric interviews, which were audiotaped. At the time of this study, 1129 patients were enrolled in the NNTC.

Interviewer training

All interviewers were trained and certified with staff supervised by the instrument's author (Research Assessment Associates, New York). When possible, these sessions were attended by interviewers from multiple sites to encourage standardization across sites. Four separate training sessions were held in two cities (New York and San Diego). Training consisted of 2–4 day sessions in which the instrument was explained and prescripted role-playing sessions were conducted. A manual, videotaped interviews, and other training aids were also provided. Once trained, interviewers were certified by providing audiotaped sessions to the training centre. These audiotapes were reviewed for appropriate application of the instrument.

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Interviews and rating

Patients were administered modules 1 through 6 of version 1.9b of the PRISM, covering a general demographic and medical overview, alcohol and drug-use disorders, major depression, and substance-induced major depression (Hasin et al., 1996). Diagnoses were classified as 'current' if they were present within the 12 months prior to interview. Patients included in the reliability study were randomly selected by each site from the pool of completed baseline interviews that had been audibly tape recorded. Audiotapes of the interviews and diagnostic worksheets were sent to the coordinating centre (MHBB) for duplication and distribution. Tapes were distributed in a randomized, pairwise fashion and the interviews were rerated by their recipients, blind to original diagnoses. Fifteen tapes originated from NNAB, 15 from MHBB, 16 from CNTN, and 17 from TRAR, NNAB rerated 16, MHBB rerated 17, CNTN rerated 16 and TRAR rerated 14. Rerate diagnoses were sent to the coordinating centre, and when discrepancies between initial and rerate diagnoses were present, each pair of raters reviewed the tape, identified the source of the discrepancy, and tried to resolve it. Consensus diagnoses were determined on teleconferences, and in some disagreements, through a second rerating of the interview by another NNTC site. Seven tapes required a second rating.

Statistics

Diagnoses were treated as dichotomous variables (present or absent), and the kappa statistic was computed for agreement between initial and rerate diagnoses, and for agreement between initial and consensus diagnoses (Cohen, 1960). The kappa statistic was chosen to correct for the occurrence of chance agreement.

Results

Composition of the sample

The demographic composition of the group, with median CD4 count and plasma viral load, is given in Table 1. Seventy-six percent of the sample had SUDs, and 54% had MD. Only eight patients had no SUD or MD diagnoses.

Professional level of the interviewers

A total of 17 individuals performed the interviews and rated audiotapes. The professional level of interviewers and raters was 47% PhD with training in psychology, 6% MD with training in psychiatry, 18% MS in a psychology training programme, and 29% nurse clinicians or mental health technicians with a BA/BS/BSN.

Interrater reliability

Tables 2 and 3 display the interrater reliability of PRISM modules 1–6 for establishing diagnoses of SUD and MD in the multi-site, HIV-infected sample. In the

Table 1. Composition of the study sample (n = 63)

Age (Mean, S.D. and range)	44.2 +/– 7.5 years	range 27–67 years
Gender		
Proportion men	79%	
Proportion women	21%	
Race		
Proportion white	49%	
Proportion black	25%	
Proportion Hispanic	22%	
Proportion other	4%	
CD4 count (median and range)	129 cells/mm^3	range 1–1 012 cells/mm^3
Viral load (median and range)	6 090 copies/ml	undetectable–1 548 837 copies/ml
Psychiatric diagnoses		
Proportion with SUD	76%	
Proportion with MD	54%	
Number of SUD/patient (mean +/– S.D. and range)	2.0 +/– 1.8	0–7

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Table 2. Inter-rater agreement for lifetime diagnoses of DSM-IV substance and depressive disorders in 63 patients

Any diagnosis	*2 × 2 table*			*Kappa*	*95% CI*
		+	−		
Cocaine	+	27	2	0.94	0.84–1.00
	−	0	34		
Opiates	+	14	1	0.96	0.87–1.00
	−	0	48		
Alcohol	+	30	4	0.78	0.62–0.93
	−	3	26		
Cannabis	+	21	3	0.80	0.64–0.95
	−	3	36		
Sedative	+	4	0	1.00	
	−	0	59		
Stimulant	+	14	2	0.87	0.73–1.00
	−	1	46		
Hallucinogen	+	3	0	1.00	
	−	0	60		
Major depression	+	29	4	0.84	0.70–0.97
	−	1	28		
Substance-induced depression	+	3	4	0.45	0.02–0.87
	−	2	53		
Abuse					
Cocaine	+	23	1	0.97	0.90–1.00
	−	0	39		
Opiates	+	11	1	0.95	0.84–1.00
	−	0	51		
Alcohol	+	25	4	0.81	0.66–0.95
	−	2	32		
Cannabis	+	20	3	0.80	0.64–0.95
	−	3	37		
Sedative	+	3	0	1.00	
	−	0	60		
Stimulant	+	13	2	0.83	0.66–1.00
	−	2	46		
Hallucinogen	+	4	0	1.00	
	−	0	59		
Dependence					
Cocaine	+	23	3	0.90	0.79–1.00
	−	0	37		
Opiates	+	12	1	0.86	0.70–1.00
	−	2	48		
Alcohol	+	26	2	0.81	0.66–0.95
	−	4	31		
Cannabis	+	9	2	0.88	0.72–1.00
	−	0	52		
Sedative	+	3	0	1.00	
	−	0	60		
Stimulant	+	9	1	0.94	0.82–1.00
	−	0	53		
Hallucinogen	+	1	0	0.66	0.003–1.00
	−	1	61		

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Table 3. Inter-rater agreement for current and past diagnoses of DSM-IV substance and depressive disorders in 63 patients

Current disorder		*2 × 2 Table*		*Kappa*	*95% CI*
		+	−		
Cocaine	+	6	0	1.00	
	−	0	57		
Opiates	+	3	0	1.00	
	−	0	60		
Alcohol	+	5	2	0.74	0.46–1.00
	−	1	55		
Cannabis	+	2	2	0.47	−0.04–0.97
	−	2	57		
Sedative	+	0	0	**	
	−	0	63		
Stimulant	+	2	0	1.00	
	−	0	61		
Hallucinogen	+	0	0	**	
	−	0	63		
Major Depression	+	12	2	0.78	0.59–0.96
	−	2	45		
Substance-induced depression	+	0	2	−0.02	−1.15–1.00
	−	1	59		
Past disorder					
Cocaine	+	25	3	0.90	0.79–1.00
	−	0	35		
Opiates	+	14	1	0.96	0.87–1.00
	−	0	48		
Alcohol	+	30	4	0.78	0.62–0.93
	−	3	26		
Cannabis	+	21	3	0.80	0.64–0.95
	−	3	36		
Sedative	+	4	0	1.00	
	−	0	59		
Stimulant	+	14	2	0.87	0.73–1.00
	−	1	46		
Hallucinogen	+	4	0	1.00	
	−	0	59		
Major depression	+	27	2	0.87	0.75–0.99
	−	2	31		
Substance-induced depression	+	3	3	0.57	0.16–0.98
	−	1	55		

**Kappa cannot be computed when the divisor equals 0 (no patients with the current condition).

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PRISM diagnostic algorithms, substance abuse is coded when a patient meets DSM-IV criteria, even if there is a concomitant diagnosis of dependence for the substance. As displayed in Tables 2 and 3, with one exception, kappa coefficients of 0.66 to 1.00 were obtained for past, current, or lifetime diagnoses of substance disorders, with the great majority of coefficients being ≥0.80. The one exception was for current cannabis disorders, where the coefficient was 0.47. Confidence intervals were more precise for cannabis abuse and dependence than a current cannabis disorder. Interestingly, when discrepancies for cannabis diagnoses emerged, the third rater agreed with the rerating more often than the original rater's diagnosis. Overall, for the SUDs, kappas were approximately equivalent for substance abuse and dependence. Kappas for current and past SUDs were also consistent overall. Confidence intervals for current alcohol disorder, current cannabis disorder and hallucinogen dependence were much less precise than the other SUDs.

For MD, kappa coefficients ranged from 0.78 to 0.87. Higher reliability was achieved for past MD than for a current disorder. There was a low prevalence (11%) of substance-induced depression in our sample. Reliability of substance-induced depression was poor to fair (k = −0.02 to 0.57). For current substance-induced depression, only one rerater endorsed this diagnosis, and the negative kappa indicates worse than chance agreement. Consensus ratings improved interrater reliability for substance-induced depression (0.66 to 0.82) to a level commensurate with the initial and rerating values for the SUDs (except cannabis) and MD.

Discussion

Reliability studies for a variety of structured and semi-structured psychiatric interviews have been described (Helzer et al., 1977; Skre et al., 1991; Williams et al., 1992; Holzer et al., 1996; Clarke et al., 1998; Ventura et al., 1998; Hesselbrock et al., 1999; Martin et al., 2000; Miele et al., 2000; Berney et al., 2002) but this is the first such study for the PRISM. In the present study, the cross-site reliability of PRISM for SUDs and MD was comparable to other instruments such as the Semi-Structured Assessment for the Genetics of Alcoholism (SSAGA), the Schedule for Clinical Assessment in Neuropsychiatry (SCAN), the SCID and the Diagnostic Interview for Genetic Studies (DIGS) (Skre et al., 1991; Williams et al., 1992; Hesselbrock et al., 1999; Martin et al., 2000; Berney et al., 2002). Most of these prior analyses of reliability were single-site studies with an admixture of interviewer/observer and test/re-test designs.

We have been able to locate two previous multisite reliability studies in the literature: one with a semi-structured psychiatric interview, the SCID (Williams et al., 1992) and the other, using unstructured interviews according to DSM-III and DSM-IIIR criteria, as part of the DSM-IV mood disorders field trial (Keller et al., 1995). Kappas for current and lifetime MD were 0.68 and 0.57 respectively in the interviewer/other site rater portion of the DSM-IV field trials (Keller et al., 1995) and lower than our obtained kappas for current (0.78) and lifetime (0.84) MD. Using the SCID with a test/retest design, kappas for substance and depression diagnoses were in the range of 0.22 to 0.83 and, as in our study, the poorest reliability was shown for cannabis diagnoses (Williams et al., 1992). In our study, the difficulty in assessing these patients could be directly related to their medically authorized usage of cannabis in advanced HIV disease. In this diagnostic category, concomitant medical prescriptions for cannabinoid that were not considered in the standard algorithmic assessment resulted in an inability to implement PRISM scoring rules correctly. Other aspects of advanced HIV, such as disease symptoms or pain management therapies, did not appear to influence the ability of our raters to arrive at consistent SUD and MD diagnoses. This result supports, in a multisite setting, the impression held by many individual HIV researchers that, in general, HIV disease does not present an obstacle to reliable psychodiagnosis. This study also establishes the feasibility of a psychiatric interview in elucidating SUD and MD diagnoses in a medically ill, HIV-infected population and supports the utility of the PRISM with HIV patients while also indicating the need to augment PRISM diagnostic questions to allow for medically prescribed cannabis.

One of the aims of the PRISM is to assess and distinguish between primary psychiatric disorders and secondary or substance-induced syndromes, like substance-induced mood disorders. Substance-induced major depression requires depression symptoms and functional impairment that occur during heavy and prolonged period of drinking or abuse of specific drugs (Hasin et al., 1996). The symptoms must be directly related to – and remit with – intoxication or withdrawal and be aetiologically related to depressive symptoms. In our study, the prevalence of current substance-induced

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depression was extremely low (3%), and the kappa for current substance-induced depression was less than chance. In our patients, most of the substance-use disorders were in the past, but the kappa for past substance-induced depression was only fair (0.57). This finding may reflect the inherent difficulty in assessing depressive symptoms that occurred during intoxication or withdrawal when a patient's memory for symptoms and time course may be poor. It is also possible that the reliability of this diagnosis may be more stable for patients in an alcohol or drug treatment programme who have acute disorders. Alternatively, there may be an inherent limitation in the design of the PRISM because, with multiple past episodes, elucidation of a substance-induced depression may be masked by endogenous MD when structured probing is limited only to the episode of worst severity. We have found no reliability estimates in the literature for this PRISM diagnosis (substance-induced depression).

The overall reliability seen in our study may be a function of several variables: the extensive training, supervision, and experience of our interviewers/raters, the inherent structure of the interview and the focus on a limited number of diagnoses. Prior studies have noted that a limited focus on specific diagnostic entities increases reliability (Williams et al., 1992). With regard to structure, the PRISM features more explicit and operationalized criteria for diagnosis of key psychiatric and substance-use disorders than do other clinician or lay-administered instruments. For example, although a DSM IV criterion for alcohol abuse is recurrent use resulting in failure to fulfil major role obligations, neither the DSM IV nor the SCID specify what is meant by 'recurrent', leaving this to interviewer judgement. The PRISM specifies the temporal patterns that define recurrence. Similarly, the magnitude of sleep disturbance as a qualifying criterion for major depression is left to clinician judgement in other interviews, whereas in PRISM it is specified. Also regarding structure, the reliability of an instrument evolved from the PRISM, the Substance Dependence Severity Scale (SDSS) has been tested in urban substance treatment and maintenance programs (Miele et al., 2000). In this study, 54 patients were rerated by one experienced interviewer with coefficients of 0.92 or above generated for severity scales of alcohol, heroin, cannabis and cocaine. It is unclear how these instruments will function with regard to reliability in non-research venues.

Finally, the primary function of the NNTC is to provide well-characterized tissues and fluids to researchers. The demographic composition of our patients varies widely by site with MHBB having mostly (73%) ethnic/racial minority composition and other sites ranging from 31% to 57%. Despite the differing demographics the PRISM functioned adequately. Cross-site consistency in diagnosis is essential and more difficult to achieve as it lacks the advantages same-site raters have (informal discussions and ideological similarities in rendering diagnosis). The results of this study confirm that in the psychiatric evaluation of advanced, substance-experienced, HIV-infected populations originating in multiple regions of the US, the application of DSM-IV criteria via PRISM is relatively uniform. The modules of the PRISM used for the first 5-year period of the consortium have demonstrated excellent reliability in diagnosing SUDs and MD when implemented by trained, experienced interviewers.

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References

Atkinson JH Jr, Grant I, Kennedy CJ, Richman DD, Spector SA, McCutchan JA. Prevalence of psychiatric disorders among men infected with human immunodeficiency virus. A controlled study. Arch Gen Psychiatr 1988; 45(9): 859–64.

Berney A, Preisig M, Matthey ML, Ferrero F, Fenton BT. Diagnostic interview for genetic studies (DIGS): inter-rater and test-retest reliability of alcohol and drug diagnoses. Drug Alcohol Depend 2002; 65(2): 149–58.

Bing EG, Burnam MA, Longshore D, Fleishman JA, Sherbourne CD, London AS, Turner BJ, Eggan F, Beckman R, Vitiello B, Morton SC, Orlando M, Bozzette SA, Ortiz-Barron L, Shapiro M. Psychiatric disorders and drug use among human immunodeficiency virus-infected adults in the United States. Arc Gen Psychiatr 2001; 58(8): 721–8.

Chuang HT, Jason GW, Pajurkova EM, Gill MJ. Psychiatric morbidity in patients with HIV infection. Can J Psychiatr 1992; 37: 109–15.

Clarke DM, Smith GC, Herrman HE, McKenzie DP. Monash Interview for Liason Psychiatry (MILP). Development, reliability, and procedural validity. Psychosomatics 1998; 39(4): 318–28.

Cohen J. A coefficient of agreement for nominal scales. Educ Psychol Meas 1960; 20: 37–46.

DOI: 10.1002/mpr

Hasin D, Trautman K, Miele G, Samet S, Smith M, Endicott J. Psychiatric Research Interview for Substance and Mental Disorders (PRISM): reliability for substance abusers. Am J Psychiatr 1996; 153: 1195–201.

Helzer JE, Clayton PJ, Pambakian R, Reich T, Woodruff RA Jr, Reveley MA. Reliability of psychiatric diagnosis. II. The test/retest reliability of diagnostic classification. Arch Gen Psychiatr 1977; 34(2): 136–41.

Hesselbrock M, Easton C, Bucholz KK, Schuckit M, Hesselbrock V. A validity study of the SSAGA – a comparison with the SCAN. Addiction 1999; 94(9): 1361–70.

Holzer CE, Nguyen HT, Hirschfeld RM. Reliability of Diagnoses in Mood Disorders. Psychiatr Clin N Am 1996; 19(1): 73–84.

Keller MB, Klein DN, Hirschfeld RM, Kocsis JH, McCullough JP, Miller I, First MB, Holzer CP 3rd, Keitner GI, Marin DB, Shea T. Results of the DSM-IV mood disorders field trial. Am J Psychiatr 1995; 152(6): 843–9.

Lipsitz JD, Williams JB, Rabkin JG, Remien RH, Bradbury M, el Sadr W, Goetz R, Sorrell S, Gorman JM. Psychopathology in male and female intravenous drug users with and without HIV infection. Am J Psychiatr 1994; 151: 1662–8.

Lyketsos CG, Hoover DR, Guccione M, Dew MA, Wesch JE, Bing EG, Treisman GJ. Changes in depressive symptoms as AIDS develops. The Multicenter AIDS Cohort Study. Am J Psychiatr 1996; 153(11): 1430–7.

Maj M, Janssen R, Starace F, Zaudig M, Satz P, Sughondhabirom B, Luabeya M, Riedel R, Ndetei D, Calil H, Bing E, St Louis M, Sartorius N. WHO neuropsychiatric AIDS study, cross-sectional phase I: study design and psychiatric findings. Arch Gen Psychiatr 1994; 51: 39–49.

Martin CS, Pollock NK, Bukstein OG, Lynch KG. Inter-rater reliability of the SCID alcohol and substance-use disorders section among adolescents. Drug Alcohol Depend 2000; 59(2): 173–6.

Miele GM, Carpenter KM, Smith Cockerham M, Dietz Trautman K, Blaine J, Hasin DS. Concurrent and predictive validity of the Substance Dependence Severity Scale (SDSS). Drug Alcohol Depend 2000; 59(1): 77–88.

Morgello S, Gelman BB, Kozlowski PB, Vinters HV, Masliah E, Cornford M, Cavert W, Marra C, Grant I, Singer EJ. The National NeuroAIDS Tissue Consortium: a new paradigm in brain banking with an emphasis on infectious disease. Neuropathol Appl Neurobiol 2001; 27(4): 326–35.

Morrison MF, Petitto JM, Ten Have T, Gettes DR, Chiappini MS, Weber AL, Brinker-Spence P, Bauer RM, Douglas SD, Evans DL. Depressive and anxiety disorders in women with HIV infection. Am J Psychiatr 2002; 159(5): 789–96.

Perkins D, Stern R, Golden R, Murphy C, Naftolowitz D, Evans D. Mood disorders in HIV infection: prevalence and risk factors in a nonepicenter of the AIDS epidemic. Am J Psychiatr 1994; 151: 233–6.

Rabkin JG, Ferrando SJ, Jacobsberg LB, Fishman B. Prevalence of axis I disorders in an AIDS cohort: a cross-sectional, controlled study. Compr Psychiatr 1997a; 38(3): 146–54.

Rabkin JG, Goetz RR, Remien RH, Williams JB, Todak G, Gorman JM. Stability of mood despite HIV illness progression in a group of homosexual men. Am J Psychiatr 1997b; 154: 231–8.

Rabkin JG, Johnson J, Lin SH, Lipsitz JD, Remien RH, Williams JB, Gorman JM. Psychopathology in male and female HIV-positive and negative injecting drug use rs: longitudinal course over 3 years. AIDS 1997c; 11: 507–15.

Rosenberger PH, Bornstein RA, Nasrallah HA, Para MF, Whitaker CC, Fass RJ, Rice RR Jr. Psychopathology in HIV infection: lifetime and current assessment. Compr Psychiatr 1993; 34(3): 150–8

Skre I, Onstad S, Torgersen S, Kringlen E. High interrater reliability for the Structured Clinical Interview for DSM-III-R Axis I (SCID-I). Acta Psychiatr Scand 1991; 84(2): 167–73.

Ventura J, Liberman RP, Green MF, Shaner A, Mintz J. Training and quality assurance with the Structured Clinical Interview for DSM-IV (SCID-I/P). Psychiatr Res 1998; 79(2): 163–73.

Williams J, Rabkin J, Remien R, Gorman J, Ehrhardt A. Multidisciplinary baseline assessment of homosexual men with and without HIV infection: Standardized clinical assessment of current and lifetime psychopathology. Arch Gen Psychiatr 1991; 48: 124–30.

Williams JB, Gibbon M, First MB, Spitzer RL, Davies M, Borus J, Howes MJ, Kane J, Pope HG Jr, Rounsaville B, Wittchen HU. The Structured Clinical Interview for DSM-III-R (SCID). II. Multisite test-retest reliability. Arch Gen Psychiatr 1992; 49(8): 630–6.

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