CME Activity

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CME Objectives
After completing this CME activity, the reader will be able to:

- Recognize the potential influence patient ethnicity may have on clinical diagnostic practice
- Distinguish between information and criterion variance
- Recognize the need for careful history taking in multi-ethnic patient samples

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The Effects of Race and Information Variance on Disagreement Between Psychiatric Emergency Service and Research Diagnoses in First-Episode Psychosis

Stephen M. Strakowski, M.D., John M. Hawkins, M.D., Paul E. Keck, Jr., M.D., Susan L. McElroy, M.D., Scott A. West, M.D., Michelle L. Bourne, Kenji W. Sax, Ph.D., and Karen C. Tugrul, R.N.

Background: Previously, we reported that patient race was associated with disagreement between research and clinical diagnoses. To extend this work, we studied whether disagreement was specifically due to associations of patient race with information or criterion variance.

Method: Ninety-nine patients consecutively admitted through the University of Cincinnati Psychiatric Emergency Service (PES) for a first hospitalization for psychosis were evaluated using the Structured Clinical Interview for DSM-III-R. Diagnoses made in the PES were compared with those obtained from the structured interview. We examined the contributions of information variance and criterion variance to the association between race and diagnostic agreement of PES and research diagnoses.

Results: Agreement in PES and research diagnoses was present in only 42% of patients. Diagnostic agreement was less common in non-white patients than white patients, even after controlling for other sociodemographic and clinical variables. Information variance was the cause of diagnostic disagreement in 58% of cases and was associated with patient race. Criterion variance, occurring in 42% of cases, was not associated with race.

Conclusion: Patient race may contribute to the diagnostic process in the psychiatric emergency service by influencing the information obtained from patients during clinical evaluations.

(J Clin Psychiatry 1997;58:457–463)

Received Sept. 24, 1996; accepted June 16, 1997. From the Psychotic Disorders Research and Biological Psychiatry Programs, Department of Psychiatry, University of Cincinnati College of Medicine, Cincinnati, Ohio.

Supported in part by grants from the Scottish Rite Benevolent Foundation's Schizophrenia Research Program, Northern Masonic Jurisdiction; the Ohio Department of Mental Health; the University of Cincinnati Medical Associates; award MH54317 from the National Institute of Mental Health (Dr. Strakowski); and the Theodore and Vada Stanley Research Foundation (Drs. Keck and McElroy).

Reprint requests to: Stephen M. Strakowski, M.D., Director, Psychotic Disorders Research Program, Department of Psychiatry, University of Cincinnati College of Medicine, 231 Bethesda Avenue, P.O. Box 670559, Cincinnati, OH 45267-0559.

It is well recognized that patient race is associated with diagnosis in clinical practice.[1–10] For example, in a sample of patients admitted to a state hospital in Tennessee, we observed that black patients were significantly more likely to be diagnosed with schizophrenia and less likely with affective illness, even in first-admission cases.[8] We subsequently replicated this finding in another sample of patients evaluated in the Psychiatric Emergency Service (PES) at the University of Cincinnati.[9] We have also reported similar racial differences in diagnoses from the multisite DSM-IV Field Trial for Schizophrenia and Other Psychotic Disorders[10] and in hospitalized patients with psychotic mania.[7] Together, our previous work[7–10] and that of others[1–6] suggest that in clinical settings minority patients are more likely to receive diagnoses of schizophrenia than white patients. However, in general, these racial differences diminish with the use of structured interviews, although the specific reasons for these racial differences in clinical diagnoses remain unclear.[1–10]

Factors suggested to be most responsible for differences in diagnosis between research and clinical assessments are differences in the availability of patient information (i.e., information variance) or differences in

how diagnostic criteria are applied (i.e., how clinical findings are interpreted, which is called criterion variance).[11] For example, Fennig and colleagues[12] studied the contribution of information and criterion variance in a sample of patients admitted for a first hospitalization for psychosis. They observed modest levels of agreement ($\kappa = .49$) between research diagnoses obtained using a structured clinical interview and diagnoses recorded in hospital discharge summaries. Approximately half of the disagreement was associated with information variance and the other half with criterion variance, suggesting that diagnostic criteria were not systematically applied in many patients. Whether patient race influences information or criterion variance specifically is unknown. However, if patient race can be shown to be associated with one or the other type of variance, this association may clarify how race influences clinical diagnostic assessment.

With these considerations in mind and to extend our previous work,[7–10] we addressed the following questions in a sample of patients recruited as part of the University of Cincinnati First-Episode Psychosis Project[13,14] who were admitted through the PES: (1) Is patient race associated with disagreement between PES and research diagnoses? (2) If so, are these differences more commonly due to information variance or criterion variance?

METHOD

Subjects

The University of Cincinnati First-Episode Psychosis Project was initiated in October 1992, and patients were recruited for this study until May 1995.[13,14] The University of Cincinnati Hospital serves as both a regional tertiary referral center and a primary care provider for the Cincinnati metropolitan area. Additionally, the psychiatry department is closely affiliated with the community mental health system and administers the county indigent acute care unit, which is located at University Hospital. Most patients are admitted through the University Hospital PES, which manages approximately 10,000 patient visits per year and serves a primarily poor, often uninsured and underemployed urban population.[9] University Hospital also provides psychiatric care to students attending the University of Cincinnati (enrollment approximately 35,000).

Patients were recruited from consecutive admissions and were included in this analysis if they (1) were aged 15 to 45 years; (2) presented with psychotic symptoms including formal thought disorder, hallucinations, delusions, or grossly disorganized behavior; (3) could communicate in English; (4) resided within the Cincinnati metropolitan area; and (5) provided written informed consent after the study procedures had been fully explained. Patients were excluded if (1) psychotic symptoms resulted entirely from acute intoxication or withdrawal from drugs or alcohol as determined by the resolution of symptoms within the expected period of acute withdrawal and intoxication for the abused substance; (2) psychotic symptoms resulted entirely from a medical illness as determined by medical evaluation; or (3) they had a history of previous psychiatric hospitalizations, more than 3 months of antipsychotic or mood-stabilizer treatment, or more than 6 months of previous antidepressant treatment.[13,14]

Recruitment consisted of daily review of the medical records of all new psychiatric admissions to identify potential study patients. A total of 254 potential subjects were evaluated, of whom 151 (59%) met inclusion and exclusion criteria. Of this latter group, 136 patients (90%) provided written informed consent. The 15 patients who refused to participate in this study or left the hospital too rapidly to be recruited did not significantly differ from the remaining 136 subjects in age, education, socioeconomic status, diagnosis, or race or sex distribution. Finally, of these 136 patients, 99 (73%) were admitted through the PES and are the subjects of this report. Fifty-six patients (57%) were black, 37 (37%) were white, 4 (4%) were Asian-American, and 2 (2%) were Hispanic, which accurately reflects the population from which this sample was drawn.

Diagnostic Assessments

Axis I psychiatric diagnoses were made using the Structured Clinical Interview for DSM-III-R, Patient Version (SCID-P).[15] All SCID-P interviews were performed by psychiatrists (S.M.S., P.E.K., S.L.M., S.A.W.) with high interrater reliability for both principal ($\kappa = .94$) and comorbid ($\kappa > .90$) diagnoses.[13,14] When completing the SCID-P, we obtained information from the patient interview, medical records, treating clinicians, and family members. PES diagnoses were made prior to the research diagnoses, so that the investigators had access to the PES records when completing the SCID-P. The SCID-P assessments were obtained a mean ± SD of 10 ± 8 days after the PES evaluations.

As we have described in detail previously,[7,9] patient evaluations at the PES consist of three principal components: (1) After the initial triage to the PES (as opposed to the medical emergency service), patients are evaluated by a psychiatric nurse for level of acuity and chief complaint; (2) Patients are then interviewed by a licensed social work

therapist who defines the history of present illness, family history, and social history and records results from a mental status examination; and (3) Finally, the therapist reviews the case with a psychiatrist, who may or may not directly interview the patient to clarify the presentation, and a consensus DSM-III-R diagnosis is made and recorded in the record. This diagnosis was used in the current analysis.

The patients in this study were evaluated by over 28 different social workers, 23 resident psychiatrists, and 13 attending psychiatrists, with over 60 different therapist/psychiatrist combinations. These clinical evaluations occurred at the time of hospital admission prior to all research evaluations. Therapists employed in PES during this interval were 18% black (N = 5), 75% white (N = 21), and 7% other racial groups (N = 2). The physicians were 5% black (N = 2), 81% white (N = 29), and 14% other racial groups (N = 5).

Demographic Variables

Demographic variables obtained included age, sex, race, educational achievement (in years), and socioeconomic status (i.e., the highest level of employment achieved prior to the onset of symptoms). To permit adequate numbers of patients in each category for analysis, socioeconomic status was scored: 0 = student (including both high school and college), 1 = skilled/professional worker, 2 = semi-skilled manual laborer, 3 = unskilled laborer or unemployed.

Symptom Assessment

Symptom ratings were performed within 3 days of admission by trained research assistants using the Young Mania Rating Scale (YMRS),[16] the 17-item Hamilton Rating Scale for Depression (HAM-D),[17] and the Scale for the Assessment of Positive Symptoms (SAPS).[18] Raters had established interrater reliability from joint ratings of over 100 patients with an experienced psychiatric research nurse (K.C.T.), calculated using the intraclass correlation coefficient (ICC) as follows: HAM-D total, ICC = .94; YMRS total, ICC = .71; and SAPS global item ratings, ICC = .72 to .93. The total HAM-D score, the total YMRS score, and a total SAPS score, obtained by summing the individual global item ratings, were used for analyses.

Reasons for Diagnostic Disagreement

We categorized diagnostic disagreement as either information variance or criterion variance.[11,12] To determine these categorizations, we reviewed the PES and SCID-P records of patients in whom the diagnoses disagreed and coded information variance as present if the PES record failed to include information recorded in the SCID-P or vice versa. Criterion variance was coded as present if the symptoms and signs listed in the PES record and SCID-P were similar but the application of DSM-III-R criteria to those symptoms was different. If both sources of variance were present, the one that was felt to better explain the discrepancy was chosen. Interrater reliability was determined by comparing the independent ratings of two psychiatrists (S.M.S., J.M.H.) on 12 records (21%) randomly selected from the 57 patients in whom research and clinical diagnoses disagreed. These raters agreed on 11 cases (92%). After discussion, a consensus was reached on the 1 case in which independent examination disagreed. The remaining cases were rated by one of us (S.M.S.).

Statistical Analysis

All analyses were performed using the Statistical Analysis System for the Personal Computer (SAS Institute, Cary, N.C.). To facilitate analyses, the PES and research diagnoses were categorized as follows: (1) bipolar disorder (all affective subtypes); (2) major depressive disorder; (3) schizophrenia, including schizophrenia (all types), schizoaffective disorder, and schizophreniform disorder; (4) psychosis NOS (not-otherwise-specified); and (5) all other diagnoses. Agreement between PES and research diagnoses was calculated using a kappa statistic. The associations between diagnostic agreement and patient race, adjusted for other demographic (age, sex, socioeconomic status, education) and clinical (history of drug or alcohol abuse or dependence, and the previously listed symptom rating scores) factors were evaluated using logistic regression. Similar logistic regression models were used to evaluate the associations of clinical and demographic variables with information and criterion variance. From the logistic regression analysis, adjusted odds ratios (ORa) and 95% confidence intervals (CI) were calculated. Finally, other analyses were performed as necessary for completeness.

RESULTS

Subjects

Clinical and demographic variables for these patients are listed in Table 1. The only significant difference between these racial groups on any variable was in mania ratings, which were higher in whites ($t = 2.2$, $df = 97$, $p = .03$). However, when mania ratings were controlled for racial differences in rates of research diagnoses, this difference did not persist ($F = 2.2$, $df = 1,98$; $p > .1$).

Table 1. Clinical and Demographic Characteristics of 99 Patients Hospitalized for Treatment of First-Episode Psychosis*†

Characteristic	White (N = 37)	Non-White (N = 62)	Total (N = 99)
Age, y (mean ± SD)	26 ± 7	26 ± 6	26 ± 6
Sex, N (%) male	24 (65)	37 (60)	61 (62)
Socioeconomic status, N (%), unemployed	18 (49)	34 (55)	52 (53)
Education, y (mean ± SD)	12 ± 2	12 ± 2	12 ± 2
Research diagnoses, N (%)			
Bipolar disorder	28 (76)	34 (55)	62 (63)
Major depression	3 (8)	15 (24)	18 (18)
Schizophrenia	6 (16)	11 (18)	17 (17)
NOS	0 (0)	2 (3)	2 (2)
PES Diagnoses, N (%)			
Bipolar disorder	14 (38)	11 (18)	25 (25)
Major depression	5 (14)	16 (26)	21 (21)
Schizophrenia	6 (16)	10 (16)	16 (16)
NOS	6 (16)	20 (32)	26 (26)
Other	6 (16)	5 (8)	11 (11)
Substance abuse, N (%)	15 (41)	24 (39)	39 (39)
YMRS total (mean ± SD)[a]	25 ± 11	20 ± 11	21 ± 11
HAM-D total (mean ± SD)	14 ± 8	15 ± 9	14 ± 9
SAPS total (mean ± SD)	9 ± 4	9 ± 4	9 ± 4

*Abbreviations: HAM-D = Hamilton Rating Scale for Depression, NOS = not otherwise specified, PES = Psychiatric Emergency Service, SAPS = Scale for the Assessment of Positive Symptoms, YMRS = Young Mania Rating Scale.
†Some percentages do not add up to 100% due to rounding.
[a]Significant difference between groups: t = 2.2, df = 97, p = .03.

Moreover, in the patients with research diagnoses of bipolar disorder, there was no difference in mania ratings between white (mean ± SD YMRS score = 28 ± 10) and non-white patients (mean YMRS score = 25 ± 11; t = 1.0, df = 60, p > .3). Substance abuse rates did not differ between the racial groups (see Table 1).

Diagnostic Agreement

The PES and research diagnoses made in these subjects are listed in Table 1. Agreement between PES and research diagnoses occurred in 42 patients (42%) with an overall kappa for agreement of .25. The degree of agreement varied among the diagnostic categories ($\chi^2 = 41.1$, df = 12, p < .001). Specifically, the percentage of patients with a given research diagnosis who received the same PES diagnosis ranged from 61% (N = 11/18) for those diagnosed with major depression to 35% (N = 6/17) for those with schizophrenia. The percentage of patients with a given PES diagnosis who received the same research diagnosis ranged from 96% (N = 24/25) for those diagnosed with bipolar disorder to 4% (N = 1/26) for those with psychosis NOS. Eleven patients received "other" diagnoses in the PES, which included 2 patients with a diagnosis of organic mood disorder, 2 with conduct disorder, 2 with brief reactive psychosis, and 1 each with presenile dementia, delusional disorder, posttraumatic stress disorder, induced psychotic disorder, and adjustment disorder.

Racial effects on diagnostic disagreement. Logistic regression analysis revealed that patient race was significantly associated with diagnostic agreement even after adjusting for all of the other clinical and demographic variables (diagnosis, substance abuse, symptom ratings, age, sex, socioeconomic status, and education). Specifically, non-whites were significantly less likely to experience diagnostic agreement than whites (54% vs. 35%; ORa = 2.7; 95% CI = 1.1 to 6.8, df = 1, p = .03). Diagnostic disagreement was not associated with substance abuse in this statistical model (ORa = 1.0; 95% CI = 0.4 to 2.7, df = 1, p > .9). As illustrated in Table 1, no significant racial differences were evident in the distribution of research diagnoses ($\chi^2 = 6.1$, df = 3, p > .1) or PES diagnoses ($\chi^2 = 9.0$, df = 4, p > .06). However, there was a tendency in the PES for less frequent diagnoses of bipolar disorder and more frequent diagnoses of major depression and psychosis NOS in minority patients.

In the 57 patients with diagnostic disagreement, information variance accounted for this discrepancy in 33 (58%) and criterion variance in 24 (42%). Patient race was significantly associated with information variance (ORa = 2.8; 95% CI = 1.0 to 7.9, df = 1, p = .05), even after adjusting for all of the other clinical and demographic variables previously described. Specifically, information variance was more common in non-white (N = 25/62, 40%) than white (N = 8/37, 22%) patients. In contrast, criterion variance occurred at the same rate in both non-white (N = 15, 24%) and white (N = 9, 24%) patients (ORa = 1.2; 95% CI = 0.4 to 3.5, p > .5).

In all cases of information variance, information was recorded in the SCID-P that was not recorded in the PES note. In general, this information involved affective (including neurovegetative) signs and symptoms, leading to NOS or schizophrenia diagnoses in the PES instead of affective disorder diagnoses in 55% (N = 18) of those with information variance. Of the 24 patients with criterion variance, 75% were given PES diagnoses of psychosis NOS (N = 12) or "other" syndromes (N = 6).

DISCUSSION

To our knowledge, this is the first study to examine specifically whether different types of diagnostic variance contribute to racial influences in psychiatric diagnoses. In this study, as in our previous work,[7–10] patient racial designation was associated with diagnostic disagreement. Spe-

cifically, non-whites exhibited lower rates of diagnostic agreement than whites. Since there were no significant racial differences in the distribution of PES or research diagnoses, this racial effect does not seem to result from a systematic excess or exclusion of specific diagnoses of psychotic disorders in either the research or clinical setting. Instead, this association appears to reflect racial differences in information variance, suggesting that PES clinicians are not recording or eliciting adequate information from many non-white patients to make accurate DSM-III-R diagnoses. In particular, affective symptoms and signs were often not recorded in the PES records, even though they were endorsed in the structured interview.

The specific reasons why, in the PES, these symptoms and signs were more difficult to obtain or less often recorded from non-white than white patients cannot be determined in this study. However, other investigators have suggested that minority patients may exhibit "protective wariness" of predominantly white-staffed institutions, which may be misinterpreted as paranoia and may limit endorsement of psychiatric symptoms.[4] Adebimpe[6] has suggested that diagnostic errors occur in minority patients from a variety of different interacting factors, including social and cultural distance between non-white and primarily white clinicians and stereotypes of, particularly, black psychopathology, resulting in a de-emphasis of affective illness. Our findings suggest future studies are needed of factors that contribute to racial differences in obtaining or providing clinical information, particularly information that is relevant for making diagnoses of affective disorders, to decrease racial differences in diagnosis in this patient population.

In this study, 58% of the disagreement in diagnosis was secondary to information variance, i.e., differences in the clinical data recorded in the PES records as compared with the SCID-P assessment. Moreover, information variance was associated with patient race, occurring more commonly in non-white than white patients. As noted, much of this discordance was due to a lack of recorded affective symptoms and signs in the PES assessment. In the PES, patient evaluations are primarily concerned with identifying people at risk of harm to self or others, such as those with suicidality, homicidality, or severe impairment in judgment. Thus, the emphasis is placed differently than in a research evaluation where the specific research diagnosis has more immediate importance. This difference in emphasis may have contributed to the lower rates of recorded affective and neurovegetative symptoms in the PES record. However, this still does not account for the racial discrepancy noted.

Criterion variance contributed to 42% of the disagreement. Even when affective *symptoms* were recorded, affective *syndromes* often were not. Instead, 75% of the time, the PES staff resorted to a diagnosis of psychosis NOS or "other" psychiatric diagnoses. In patients where diagnosis is uncertain or the information may not be adequate, such as in a brief PES evaluation, using psychosis NOS in lieu of a diagnosis of schizophrenia or schizophreniform disorder is probably preferable.[19] Nonetheless, the failure to identify affective syndromes in the emergency room may delay the use of thymoleptic agents in some patients.

These results are consistent with previous studies of racial differences in depressive symptoms which have suggested that black patients may present with more pronounced symptoms in general,[20] and somatic symptoms particularly,[20–22] yet still receive lower rates of depressive syndrome diagnoses.[4] Additionally, different sociodemographic factors are associated with depressive symptoms among different racial groups.[23] Thus, minority patients may present with different patterns of depressive symptoms, such that even with similar or more symptomatology, a diagnosis of major depression is not applied,[4] even though recent epidemiologic studies suggest that rates of depression are similar among different racial groups.[21]

Independent of the patient's race, most patients in this study received diagnoses in the PES different from those received in a research assessment. When compared with the study by Fennig et al.,[12] our study found an overall kappa lower than what they observed for all institutional settings combined ($\kappa = .49$), but similar to what they observed for public hospitals ($\kappa = .29$). The University of Cincinnati PES is relatively unique in that, although it is located in a university hospital, it serves as the portal of entry into the public mental health system and, therefore, incorporates aspects of both systems. Additionally, in previous studies,[12] comparisons have been made between research assessments and discharge diagnoses made after an extended evaluation. Hospital discharge diagnoses are based on more extensive evaluations than PES diagnoses and would therefore be expected to agree with research assessments more often.

For many patients, particularly patients from lower socioeconomic classes, the first and only psychiatric treatment contact occurs through the PES.[9] Diagnosing a patient with psychosis in an emergency room can be a complicated process, since the patient may be too agitated, paranoid, or otherwise unwilling to provide information to aid with the assessment. This is compounded in new-onset cases because these patients lack validating in-

formation such as prior course of illness and treatment response, and a large minority of patients shift diagnoses in the first few months after their first psychotic episode.[19] Nonetheless, making an accurate diagnosis in this patient sample at this first psychiatric contact may be critical for the initial treatment disposition and plan—a time in the illness when the patient is most likely to be treatment responsive.[24] Failure to correctly identify the psychotic disorder may impair recovery, and if patient race influences the information available to make diagnoses, then this failure may specifically worsen outcome for patients in specific ethnic groups.

A number of limitations should be considered when interpreting these findings. First, the SCID-P evaluations incorporated the PES notes as a source of information; thus, the diagnoses obtained were not entirely independent. This explains why, in all cases, information variance was due to a lack of information in PES notes but its presence in the research evaluation, with none demonstrating the converse. It also suggests that completely independent evaluations would most likely lead to an even wider divergence in diagnoses.

Second, this study was completed at a single hospital, limiting the generalizability of these results to other settings. However, the observation that patient race influences clinical diagnostic practice has been reported from a number of widely disparate sites.[1–10] Additionally, given the large number of different therapists, psychiatrists, and therapist/psychiatrist combinations making clinical diagnoses, it is unlikely that these results simply reflect the practices of a small number of clinicians. Similarly, evening and weekend shifts in the PES tend to be staffed by less experienced personnel. Thus, if one racial group is more likely than another to come to the PES during these shifts, then this difference in staff experience could potentially contribute to differences in diagnostic practices. However, there is no a priori reason to expect that different racial groups come to the PES on different days or at different times.

Third, to determine information and criterion variance, we relied on the PES notes to adequately reflect the information the PES staff had obtained. In fact, it is possible that for many patients, the PES staff had additional information that they did not record. However, there is no a priori reason to expect that the type of information included on the report was based on patient race. Moreover, these notes would be expected to include information that the clinicians considered most important for their evaluation. Therefore, if they had obtained additional data on affective symptoms and signs that were not included in their notes, our findings of racial differences in information variance still suggest that these symptoms and signs were considered less important in non-white than white patients. Whether this bias occurred could not be specifically determined from this study.

Fourth, in this sample we did not observe increased rates of schizophrenia in non-white patients, in contrast to our earlier reports[7–10] and those of others.[1–6] Instead, non-white patients were more likely to receive a diagnosis of psychosis NOS consistent with our published recommendations for first-episode patients.[19] These observations suggest that our previously published results coupled with the presence of a research group that specifically examines the effects of race on diagnosis might influence local clinical practice. This influence may limit the generalizability of these results.

Fifth, the numbers of patients in each racial group were different, and specific numbers used for some analyses of subgroups were relatively small. These factors could limit the robustness of these findings. However, the statistical methods employed were conservative and appropriate for these types of data distribution, so that this risk is expected to be minimal.

Finally, in the absence of a psychiatric gold standard for diagnosis, it cannot be determined whether clinical or research diagnoses are more valid. However, as Neighbors et al.[3] state: "While it cannot be concluded that structured instruments should be viewed as the ultimate criterion of validity, an unstructured interviewing procedure is more prone to influence by unsubstantiated clinical impressions than a more structured approach."

In summary, non-white patients were less likely than white patients to be given the same clinical and research diagnoses. This racial difference may have resulted from a failure to identify affective symptoms and signs in the minority patients.

REFERENCES

1. Mukherjee S, Shukla S, Woodle J, et al. Misdiagnosis of schizophrenia in bipolar patients: a multiethnic comparison. Am J Psychiatry 1983;140: 1571–1574
2. Lipton AA, Simon FS. Psychiatric diagnosis in a state hospital: Manhattan State revisited. Hospital and Community Psychiatry 1985;365:368–373
3. Neighbors HW, Jackson JS, Campbell L, et al. The influence of racial factors on psychiatric diagnosis: a review and suggestions for research. Community Ment Health J 1989;25:301–311
4. Jones BE, Gray BA. Problems in diagnosing schizophrenia and affective disorders among blacks. Hospital and Community Psychiatry 1986;37: 61–65
5. Lawson WB, Hepler N, Holladay J, et al. Race as a factor in inpatient and outpatient admissions and diagnosis. Hospital and Community Psychiatry 1994;45:72–74
6. Adebimpe VR. Overview: white norms and psychiatric diagnosis of black

patients. Am J Psychiatry 1981;138:279–285
7. Strakowski SM, McElroy SL, Keck PE Jr, et al. Racial influence on diagnosis in psychotic mania. J Affect Disord 1996;39:157–162
8. Strakowski SM, Shelton RC, Kolbrener ML. The effects of race and comorbidity on clinical diagnosis in patients with psychosis. J Clin Psychiatry 1993;54:96–102
9. Strakowski SM, Lonczak HS, Sax KW, et al. The effects of race on diagnosis and disposition from a psychiatric emergency service. J Clin Psychiatry 1995;56:101–107
10. Strakowski SM, Flaum M, Amador X, et al. Racial differences in the diagnosis of psychosis. Schizophr Res 1996;21:117–124
11. Deutsch SI, Davis KL. Schizophrenia: a review of diagnostic and biological issues, I: diagnosis and prognosis. Hospital and Community Psychiatry 1983;34:313–322
12. Fennig S, Craig TJ, Tanenberg-Karant M, et al. Comparison of facility and research diagnoses in first-admission psychotic patients. Am J Psychiatry 1994;151:1423–1429
13. Strakowski SM, Keck PE Jr, McElroy SL, et al. Chronology of comorbid and principal syndromes in first-episode psychosis. Compr Psychiatry 1995;36:106–112
14. Strakowski SM, Keck PE Jr, McElroy SL, et al. Twelve-month outcome following a first hospitalization for affective psychosis. Arch Gen Psychiatry. In press
15. Spitzer RL, Williams J, Gibbon M, et al. The Structured Clinical Interview for DSM-III-R (SCID), I: history, rationale, and description. Arch Gen Psychiatry 1992;49:624–629
16. Young RC, Biggs JT, Ziegler VE, et al. A rating scale for mania: reliability, validity, and sensitivity. Br J Psychiatry 1978;133:429–435
17. Hamilton M. A rating scale for depression. J Neurol Neurosurg Psychiatry 1960;23:56–61
18. Andreasen NC. The Scale for the Assessment of Positive Symptoms (SAPS). Iowa City, Iowa: University of Iowa; 1984
19. Strakowski SM. Diagnostic validity of schizophreniform disorder. Am J Psychiatry 1994;151:815–824
20. Roberts RE, Stevenson JM, Breslow L. Symptoms of depression among blacks and whites in an urban community. J Nerv Ment Dis 1981;169:774–779
21. Weissman MM, Bruce ML, Leaf PJ, et al. Affective disorders. In: Robins LN, Regier DA, eds. Psychiatric Disorders in America: The Epidemiologic Catchment Area Study. New York, NY: The Free Press; 1991:53–80
22. Adebimpe VR, Hedlund JL, Cho DW, et al. Symptomatology of depression in black and white patients. J Natl Med Assoc 1982;74:185–190
23. Jones-Webb RJ, Snowden LR. Symptoms of depression among blacks and whites. Am J Public Health 1993;83:240–244
24. Wyatt RJ. Neuroleptics and the natural course of schizophrenia. Schizophr Bull 1991;17:325–351

Instructions

Psychiatrists may receive 1 hour of Category 1 credit toward the American Medical Association Physician's Recognition Award by reading the article starting on page 457 and correctly answering at least 70% of the questions in the quiz that follows.

1. Read each question carefully and circle the correct corresponding answer on the Registration form.
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1. In the United States, studies suggest that:
- a. Patient race does not influence psychiatric clinical diagnoses
- b. Minority patients receive excess diagnoses of major depression
- c. Patient race influences psychiatric clinical diagnoses
- d. Structured interviews do not diminish racial differences in diagnosis
- e. None of the above

2. When comparing research and clinical diagnoses, information variance refers to differences in:
- a. Who provides clinical information
- b. How diagnostic criteria are applied
- c. How clinical information is obtained
- d. The availability of information used to make diagnoses
- e. When patients are interviewed

3. When comparing research and clinical diagnoses, criterion variance refers to differences in:
- a. Who provides clinical information
- b. How diagnostic criteria are applied
- c. How clinical information is obtained
- d. The availability of information used to make diagnoses
- e. When patients are interviewed

4. Agreement between research and clinical diagnoses:
- a. Occurred in over half of the white patients
- b. Occurred in only 35% of the non-white patients
- c. Was significantly less common in non-whites
- d. Was not associated with substance abuse
- e. All of the above

5. In this study, differences in rates of diagnostic disagreement between racial groups appeared to result from significant racial differences in:
- a. Rates of information variance
- b. Rates of criterion variance
- c. The distribution of research diagnoses
- d. The distribution of clinical diagnoses
- e. The numbers of subjects in each group

6. Differences among racial groups in information variance suggest that:
- a. Clinicians may not be recording essential information for non-white patients
- b. Clinicians may not be eliciting essential information from non-white patients
- c. Non-white patients may not be reporting essential information to clinicians
- d. Great care is necessary when making diagnostic assessments in multi-ethnic patient samples
- e. All of the above

7. Potential limitations to this study include:
- a. Research and clinical diagnoses were not entirely independent
- b. This study was completed at only a single center
- c. PES notes may not reflect all of the information obtained by PES staff
- d. There is no psychiatric "gold standard" to determine whether research or clinical diagnoses were "correct"
- e. All of the above

Circle the one correct answer for each question.

1.	a	b	c	d	e
2.	a	b	c	d	e
3.	a	b	c	d	e
4.	a	b	c	d	e
5.	a	b	c	d	e
6.	a	b	c	d	e
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2. Content ____

3. Format ____

4. Faculty ____

5. Achievement of educational objectives:

   A. Enabled the reader to recognize the potential influence patient ethnicity may have on clinical diagnostic practice. ____

   B. Enabled the reader to distinguish between information and criterion variance. ____

   C. Enabled the reader to recognize the need for careful history taking in multi-ethnic patient samples. ____

6. This CME activity provided a balanced, scientifically rigorous presentation of therapeutic options related to the topic, without commercial bias. ____

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