Volume 9, Number 2 April 1996

JTSTEB 9(2) 159–404 (1996)

ISSN 0894-9867

# Journal of Traumatic Stress

PLENUM PRESS • NEW YORK-LONDON

*Journal of Traumatic Stress, Vol. 9, No. 2, 1996*

*Brief Report*

# Race and Outcome of Treatment for Veterans Suffering from PTSD

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*This study examines the relationship between racial group membership and psychometrically measured outcomes 4, 8 and 12 months after program entry in a program for veterans seeking treatment for war-related posttraumatic stress disorder (PTSD). Longitudinal assessment data were gathered and used to compare service use, clinicians' improvement ratings and psychometrically assessed clinical change among Black (n = 122) and White (n = 403) veterans treated at six geographically diverse sites. There were no significant differences between Blacks and Whites on any of the clinicians' improvement ratings, or on 13 of the 17 outcome measures. In this prospective study of veterans suffering from long-standing, severe PTSD, no consistent or sustained differences were observed between racial groups in improvement whether measured as psychometric change or by clinicians' ratings.*

**KEY WORDS:** veterans; race; Blacks; treatment; outcome.

For several decades both clinicians and researchers have expressed concern that patients belonging to ethnocultural minority groups, and particularly Blacks, derive less benefit from conventional psychotherapeutic treatments than Whites (Sue, 1988). While most empirical studies have failed to demonstrate differences in outcome between Black and White patients (Sue, 1988; Jones, 1982), these studies have typically involved either small samples or unstandardized measures. A large study of over 13,000 patients treated in the Los Angeles County Mental Health system, for example, recently reported that Blacks were least likely of four ethnocultural

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0894-9867/96/0400-0343$09.50/1 © 1996 International Society for Traumatic Stress Studies

groups to show improvement, but relied on a single clinician-based outcome rating (Sue, Fijino, Hu, Takeuchi, & Zane, 1991).

Particular concern has been expressed in recent years that the distinctive clinical needs of Black Vietnam veterans are not being met by conventional treatments, and especially by treatment provided by the Department of Veterans Affairs (Allen, 1986). Black veterans faced an exceptionally complex series of traumatic military and sociopolitical experiences during Vietnam service (Terry, 1984), and Parson (1985) has suggested that these complexities make treatment of Black veterans especially difficult.

In the current study, we compare the outcome of treatment across racial groups of veterans treated at six sites in the Department of Veterans Affairs PTSD Clinical Teams (PCT) program to determine whether there are differences between Black and White veterans in baseline characteristics, in service utilization, and in clinical and community adjustment outcomes when: (1) standard psychometric instruments are used to assess change; (2) change is measured in multiple psychological and psychosocial outcome domains, including satisfaction with services; and (3) data are gathered by nontreatment staff.

## Method

### *Subjects*

Data gathered for this study were derived from structured interviews conducted as one phase of the national evaluation of VA's PCT program. Six PCTs, located in Boston MA, Jackson MS, Kansas City MO, New Orleans LA, Providence RI, and San Francisco CA, agreed to participate in a descriptive outcome study. Four of the six teams were led by nationally recognized experts in the treatment of posttraumatic stress disorder (PTSD). During 1990–1991, 554 male veterans of World War II, Korea and Vietnam completed baseline assessments and were reinterviewed again, at 4-month intervals, for 1 year. Because of the small number of Hispanic veterans treated at these sites, comparisons presented here involve only Whites ($n$ = 403) and Blacks ($n$ = 122).

The veterans in this sample averaged 45.2 years of age; 85% served in Vietnam and 15% in World War II or Korea. They had 12.8 years of education, and only 50% were married. Only 35% had worked during the previous month, and 57% were receiving VA compensation payments.

*Instruments*

Standardized measures were used to address PTSD symptoms (Keane, Caddell, & Taylor, 1988); guilt reactions to war zone experiences (Laufer & Frey-Wouters, 1988); general psychological distress (Derogatis & Melisaratos, 1983); psychiatric problems (using the Psychiatric Symptoms Composite score from the Addiction Severity Index (ASI) (McLellan et al., 1985)); alcohol and drug abuse problems (McLellan et al., 1985), violent behavior (Kulka et al., 1990) and medical problems (using the ASI medical problem index).

Veterans' satisfaction with specialized PTSD treatment was assessed using a 5-point scale. Only veterans who were receiving such treatment from the PCT answered this question. Baseline measures of satisfaction referred to prior treatment for PTSD at VA medical centers.

Measures of community adjustment included the ASI Family Stress index; a count of the number of people to whom the veteran felt emotionally close and how often they were seen; and an index of daily activities (Katz & Lyerly, 1963). Employment was assessed by the number of days that the veteran worked during the preceding month. Current difficulties with the criminal justice system were assessed with the ASI Legal Difficulties composite index. Receipt of VA compensation was measured by a five-level index specially constructed to encompass the full range of compensation levels (not service connected to 100% service connected).

The participation of veterans in PCT treatment was monitored with a structured clinical summary completed by PCT clinicians 2, 4, 8, and 12 months after each veteran entered treatment. This summary allowed determination of: (1) the duration of veterans' participation in treatment for up to one year; (2) the number of treatment sessions; and (3) clinical emphases in the treatment. Data on treatment sessions were summed across the entire year, while data on clinical emphases were averaged across the reporting points. Data on non-PCT and non-VA service utilization were derived from the follow-up assessments.

*Data Analysis*

The analysis was conducted in several stages. First, Blacks and Whites were compared on entry characteristics using *t*-tests and chi-square tests. Variables that differentiated the two groups were statistically controlled in subsequent analyses of covariance (ANCOVAs). Dichotomous site codes were included for N-1 sites to adjust for effects that were specific to one or another site.

Previous analyses of this data set demonstrated that there were two phases of outcome over the first year: a movement phase (the first 4 months) in which significant gains were realized, and a stabilization phase (the remaining 8 months) during which gains were maintained but not extended (Rosenheck & Fontana, in press). Analysis of change, therefore, was conducted in two series: one evaluating change from the beginning of treatment to 4 months (the movement phase), and the second evaluating change for the remainder of the year, at 4, 8, and 12 months following intake (the stabilization phase).

To examine the relationship of racial group to outcome, these analyses were conducted as random regression analyses of longitudinal data (see below) in which race was examined for its interaction with outcome over time. A significant interaction means that either the degree or direction of change in outcome is significantly different for veterans in different racial groups.

*Missing longitudinal data.* Attempts to track adjustment longitudinally are subject to the problem of missing data at one or more of the time-points. Fortunately, a new approach to this problem, random regression modeling, has been developed by statistical researchers in recent years (Gibbons et al., 1993). The random regression approach uses the available data to make the best estimate of the missing data for each subject by inputting values and performing the desired analyses.

## Results

### *Comparison of Veterans on Baseline Characteristics*

In this sample, Black veterans differed from Whites on 8 of 21 measures. They were significantly younger than Whites; scored higher on measures of PTSD symptoms and psychological distress; were less likely to be married; and reported fewer daily activities, but more close friends. Black veterans worked fewer days in the previous month, and had lower incomes than Whites.

### *Participation in Treatment*

There was only one significant difference between Blacks and Whites out of 18 measures of participation in treatment. Clinicians reported spending less time discussing war traumas with Black than with White veterans.

*Comparison of Change among Blacks and Whites*

Random regression analyses showed that significant interactions between race and change were observed for two symptom measures (Table 1), for patient satisfaction (Table 1), and for one measure of social adjustment (Table 2). During the movement phase, Blacks showed an increase in psychiatric symptoms on the ASI, while Whites showed a decline. During the stabilization phase, in contrast, symptoms of psychological distress (BSI) increased among Whites and declined among Blacks. Blacks also showed a significantly greater increase in satisfaction with services over their pre-PCT treatment experience during the first 4 months of PCT treatment.

Table 2 shows that during the movement phase, Blacks showed more improvement than Whites in days worked, but that they then showed a greater reduction in days worked during the stabilization phase.

## Discussion

This study sought to determine whether veterans' race was associated with differences in the outcome of treatment of PTSD over a 12-month period. Although Whites showed somewhat greater improvement in psychiatric symptoms and Blacks showed somewhat greater gains in employment during the first 4 months of treatment, these differences were relatively isolated findings and were offset by trend reversals during the next eight months. Veterans' race did not, in itself, appear to be associated with differences in clinical improvement.

Although clinician reports and some simulation experiments have suggested that minorities do less well in psychotherapy than Whites (Allen, 1986; Parson, 1985), the results of our study are similar to those of most other outcome studies in reporting no measurable differences in outcome between racial groups (Sue, 1988). The current study confirms the findings of a previous and larger study of clinical outcome in VA's PCT program that relied on clinicians' ratings rather than independent psychometric assessments (Rosenheck, Fontana, & Cottrel, 1995).

An important exception to the findings reported in this study and the other studies cited above is the large-scale investigation by Sue and colleagues (1991) of racial factors in the treatment of patients in the Los Angeles County Mental Health system. In that study, Blacks showed significantly less improvement than Whites, even when treated by Black clinicians. In our previous study of VA's PCT program (Rosenheck et al., 1995) Blacks were found to show more improvement on clinicians' ratings when treated by Black clinicians than by White clinicians. Only one Black

**Table 1.** Means and Random Regression Analyses for Changes in Psychiatric Symptoms Over Time, by Race: PCT follow-up study ($N$ = 525)

| | | Movement Phase | | | Stabilization Phase | | | |
|---|---|---|---|---|---|---|---|---|
| | Race | Baseline | 4 Months | Race × Time | 4 months | 8 months | 12 months | Race × Time |
| Mississippi Scale | White | 122.14 | 120.16 | n.s. | 120.25 | 119.74 | 121.20 | n.s. |
| | Black | 126.28 | 126.33 | | 127.15 | 127.02 | 125.68 | |
| Guilt inventory | White | 2.64 | 2.61 | n.s. | 2.59 | 2.61 | 2.66 | n.s. |
| | Black | 2.81 | 2.86 | | 2.85 | 2.87 | 2.84 | |
| Brief symptom inv. | White | 2.05 | 2.03 | n.s. | 2.03 | 2.05 | 2.12 | 6.32[a] |
| | Black | 2.29 | 2.33 | | 2.36 | 2.37 | 2.31 | |
| ASI-psychiatric | White | 0.53 | 0.50 | 6.95[b] | 0.49 | 0.49 | 0.50 | n.s. |
| | Black | 0.57 | 0.60 | | 0.60 | 0.62 | 0.60 | |
| Suicide attempt | White | 0.04 | 0.04 | n.s. | 0.04 | 0.05 | 0.03 | n.s. |
| | Black | 0.02 | 0.08 | | 0.08 | 0.08 | 0.06 | |
| ASI-alcohol | White | 0.11 | 0.08 | n.s. | 0.08 | 0.07 | 0.07 | n.s. |
| | Black | 0.11 | 0.08 | | 0.07 | 0.08 | 0.07 | |
| ASI-drugs | White | 0.03 | 0.02 | n.s. | 0.02 | 0.01 | 0.01 | n.s. |
| | Black | 0.05 | 0.03 | | 0.02 | 0.02 | 0.02 | |
| ASI-medical | White | 0.50 | 0.46 | n.s. | 0.46 | 0.46 | 0.44 | n.s. |
| | Black | 0.49 | 0.53 | | 0.53 | 0.58 | 0.50 | |
| Violence | White | 9.33 | 6.06 | n.s. | 5.93 | 5.91 | 5.91 | n.s. |
| | Black | 10.23 | 7.81 | | 7.79 | 7.95 | 7.12 | |
| Satisfaction with PTSD treatment[c] | White | 3.21 | 3.24 | 4.47[a] | 3.25 | 3.15 | 3.20 | n.s. |
| | Black | 2.51 | 3.04 | | 3.12 | 3.22 | 3.06 | |

[a] $p < .05$.
[b] $p < .01$.
[c] Includes only veterans receiving treatment for PTSD at the time of the interview ($n$ = 59 blacks and $n$ = 183 whites for the movement phase; $n$ = 94 blacks and $n$ = 293 whites for the stabilization phase).

**Table 2.** Means and Random Regression Analyses for Changes in Social Functioning and Resources Over Time, by Race: PCT follow-up study ($N$ = 525)

| | | Movement phase | | | Stabilization Phase | | | |
|---|---|---|---|---|---|---|---|---|
| | Race | Baseline | 4 Months | Race × Time | 4 months | 8 months | 12 months | Race × Time |
| ASI-Family | White | 0.26 | 0.24 | n.s. | 0.24 | 0.22 | 0.24 | n.s. |
| | Black | 0.23 | 0.26 | | 0.26 | 0.23 | 0.19 | |
| People close to | White | 10.23 | 10.12 | n.s. | 10.20 | 10.15 | 10.33 | n.s. |
| | Black | 12.46 | 12.61 | | 12.82 | 11.71 | 12.46 | |
| Social contacts | White | 492.40 | 484.70 | n.s. | 496.80 | 468.50 | 477.70 | n.s. |
| | Black | 509.10 | 554.60 | | 569.60 | 571.00 | 573.80 | |
| Daily activities | White | 11.63 | 11.54 | n.s. | 11.53 | 12.01 | 11.70 | n.s. |
| | Black | 10.41 | 10.13 | | 10.16 | 9.93 | 9.96 | |
| Days worked | White | 6.91 | 7.37 | 7.83[b] | 7.61 | 7.78 | 7.07 | 6.53[a] |
| | Black | 4.93 | 8.00 | | 8.13 | 6.34 | 6.15 | |
| ASI-legal | White | 0.08 | 0.06 | n.s. | 0.05 | 0.05 | 0.06 | n.s. |
| | Black | 0.11 | 0.07 | | 0.07 | 0.08 | 0.03 | |
| Service connection | White | 1.24 | 1.32 | n.s. | 1.35 | 1.35 | 1.40 | n.s. |
| | Black | 1.08 | 1.15 | | 1.14 | 1.16 | 1.13 | |

[a] $p < .05$.
[b] $p < .01$.

clinician was involved in the current study, however, precluding any examination of the relationship of racial matching to treatment outcomes. While the difference in findings between the Los Angeles County study and the two VA studies cannot be explained definitively, they may be attributable to differences in staff qualifications (the LA system included paraprofessionals while VA staff are almost all masters prepared or doctoral level clinicians) or other aspects of organizational culture. Studies of racial differences in outcome in other mental health systems are needed to determine whether service system characteristics affect some racial groups more than others.

This study suggests that Blacks and Whites treated in the same program experience similar degrees of improvement in symptoms and social functioning and express similar levels of satisfaction with services. These findings are somewhat reassuring in view of evidence that Black veterans may receive less intensive services than Whites, especially when treated by White clinicians (Rosenheck et al., 1995). Further studies are thus needed to determine under what circumstances Blacks and Whites receive different levels of services, and the effect of those differences on outcomes.

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