# The Use of Restraint and Seclusion in Different Racial Groups in an Inpatient Forensic Setting

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The purpose of this study was to determine if physical restraint and/or seclusion had been used with different frequencies in patients of different racial groups in an inpatient forensic psychiatry facility. The method used was a retrospective correlational study of all inpatients ($n = 806$) treated from January 1993 through August 2000 at Kirby Forensic Psychiatric Center, a maximum-security inpatient forensic facility in Ward's Island, NY, near New York City. Episodes of restraint and/or seclusion were measured in each racial group. The number of violent incidents involving patients of each racial group was also measured. Racial groups at Kirby did not differ significantly from each other in number of violent incidents nor in the number of episodes of restraints. However, Asians and blacks as racial groups were more likely to have been secluded than were other racial groups. This difference did not persist when the number of incidents of seclusion was considered individually rather than for entire racial groups.

**J Am Acad Psychiatry Law 32:163–8, 2004**

Previous literature suggests that members of racial minority groups, especially blacks and Hispanics, are often perceived as more hostile, aggressive, and potentially dangerous than are whites. For example, Rossi *et al.*[1] in 1986 reported that Asian patients were rated as more assaultive than other racial groups and that blacks were rated as both more assaultive and more "fear inducing." The perception of certain racial groups as more violent has serious consequences for disposition and for treatment, as indicated by authors Soloff and Turner,[2] who found in their research that black patients had a higher incidence of seclusion. Such misperceptions about racial groups have had effects, not only on adult patients but also on adolescents. In a study published in 1980, Lewis *et al.*[3] looked at a sample of adolescents from the same community and compared those who were sent to psychiatric hospitals with those who were sent instead to correctional institutions. The authors hypothesized that those sent to the correctional setting would have higher rates of violent behavior. Instead, they found that irrespective of behavior or psychopathology, the most powerful factor that determined which of the patients were sent to the correctional setting was race. Black youths were significantly more likely to be sent to a correctional facility than their white counterparts. Their results indicated that: "In the lower socioeconomic sectors of the area studied, violent, disturbed Black adolescents were incarcerated; violent, disturbed white adolescents were hospitalized" (Ref. 3, p 1215).

In 1990, Cohen *et al.*[4] compared the demographic, emotional, and behavioral characteristics of children and adolescents placed in a psychiatric hospital with those placed in a correctional facility. Consistent with previous findings, they found that blacks were over-represented in the sample sent to the correctional facility and that "race was the only variable that predicted the site in which youth were placed" (Ref. 4, p 909). Similar findings were noted more recently by Coid *et al.*[5] in 2000. These studies indicate that race has been used to determine treatment and disposition and that those in minority groups have been inaccurately perceived as more violent.

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Way and Banks[6] in 1990 found that characteristics associated with high probabilities of restraint and seclusion were age less than 26 years, gender, involuntary legal status, and length of stay less than one year. Psychotic patients have required more restraint and seclusion than nonpsychotic patients.[7] Other data have indicated that those more likely to be secluded were significantly younger, more likely to have symptoms of mania, and less likely to have been married.[8] In 1976, Duncan[9] examined attitudes about different racial groups and racial stereotypes by using videotaped vignettes. The videotapes depicted the same acts performed by different individuals who were either black or white. The study revealed that observers tended to rate the act as more violent or aggressive when performed by a black person.

More recently, in 1995 McNiel and Binder[10] evaluated the characteristics of patients whom clinicians had accurately assessed as being at high or low risk for violence. They concluded: "The risk of violence was overestimated among persons who were nonwhite. . . . Similarly, patients whose risk of violence was underestimated (false negatives) were more likely to be white. . . . " (Ref. 10, p 904). Likewise, in 1999, Hoptman *et al.*[11] examined patient characteristics that were associated with a prediction of assaultive behavior. They found that "African Americans were over-represented and Caucasians were under-represented in the group predicted to be assaultive" (Ref. 11, p 1463). Moreover, they concluded that race was not associated with actual assaultive behavior.[11]

Based on these previous findings in the literature, such attitudes about minorities may influence treatment practices in current inpatient settings. Specifically, clinicians may be more wary of violence on the part of minority patients and thus may be more likely to use physical restraint and/or seclusion rather than or in addition to other available interventions. If seclusion and restraint are used more frequently in minority patients, it could reflect biased racial attitudes and may have deleterious consequences for those patients. Therefore, in this study we investigated the following hypotheses:

1. Patients in racial minority groups are placed in seclusion more often than are white patients.

2. Patients in racial minority groups are placed in restraints of all levels more often than are white patients.

3. Patients of racial minority groups who are placed in seclusion remain in seclusion longer than do white patients who are placed in seclusion.

4. Patients of racial minority groups who are placed in restraints remain in restraints for longer periods than do white patients who are placed in restraints.

5. Patients of racial minority groups and white patients do not differ in number of violent incidents.

If there is a higher level of violence among patients of racial minority background, it is likely that restraint and seclusion will be used at greater frequency and for longer periods in treating minority patients. If, however, there is no greater incidence of violence among minority patients, it would be expected that seclusion and/or restraint would not be used with greater frequency in minority patients. If seclusion and/or restraint are used with greater frequency in minority patients despite there being no difference in incidents of violence, the possibility of preconceived stereotypes on the part of staff members must be considered. Such preconceptions or biases, if found, may indicate a lack of cultural awareness and sensitivity.

## Method

This study was approved by the New York State Office of Mental Health Forensic Investigational Review Board.

### *Subjects*

The subjects included all of the inpatients treated at Kirby Forensic Psychiatric Center between January 1993 and August 2000. This initially included 838 patients. The valid sample, however, excluded 32 subjects for whom complete descriptive data were not available. Thus, the final sample consisted of 806 patients. The racial categories considered were Asian/Pacific Islander, black, Hispanic, and white. Racial "minority" groups were defined as Asian/Pacific Islander, black, or Hispanic. Other patient variables included age, gender, diagnosis, level of education, legal status, and length of stay at Kirby. Violent incidents were defined as incidents of physical assault (in which the patient was the sole physical aggressor), fighting (in which the patient was both physical aggressor and the recipient of physical aggression), or self-abuse (in which physical violence was directed at self only). Treatment variables considered included the number of episodes of restraint and/or seclusion,

the duration of each episode of restraint and/or seclusion, and the level of restraint and/or seclusion that was used in each episode (i.e., seclusion only, wrist restraints, or four-point restraints).

### *Procedure*

Data for this study were gathered retrospectively from a computerized database at Kirby. Demographic information for each patient, including racial background, was determined from a review of each patient's admission form. The admission forms are completed by the admitting social worker at the time of admission for each patient. Data on restraint and seclusion are entered into a daily report by nursing staff using restraint and seclusion data collection forms. The data are then entered into the computer system at Kirby by the Program Evaluation Department.

### *Statistics*

Racial groups at Kirby were compared for episodes and incidents of violence, episodes and incidents of restraints, and episodes and incidents of seclusion. These statistical comparisons were made by using chi-square analysis. Three degrees of freedom were used in the chi-square analysis, since four different racial groups were being compared, based on the statistical standard of using one degree of freedom less than the number of groups being compared. Racial groups were also compared for the time spent in restraints and seclusion, by using analysis of variance to calculate an $F$ ratio, again using three degrees of freedom based on the comparison of four different groups.

## Results

The percentage of each racial group in the total population at Kirby during the entire study period was calculated to obtain valid expected percentages of violent incidents and rates of restraint and/or seclusion. In other words, the percentages reflect the total number of Asians, blacks, Hispanics, and whites at Kirby from January 1993 through August 2000. Asians represented 3.2 percent, blacks 56.7 percent, Hispanics 21.7 percent, and whites 18.4 percent of the total population at Kirby. There were 4538 violent episodes during the study period from January 1993 through August 2000. When the patients committing these episodes of violent incidents were compared by percentage for each racial group, 5.3 percent were Asian, 54.0 percent were black, 22.2 percent were Hispanic, and 18.5 percent were white. Chi square analysis produced a value of 1.521 with $p > .05$, (not statistically significant; Table 1). This finding indicates that the number of violent episodes in different racial groups did not differ with any statistical significance.

Of the total sample of 806 patients, 535 had ever been involved in a violent incident. This represents 66.4 percent of the total sample. Of those who had a history of a violent incident, 3.0 percent were Asian, 57.6 percent were black, 20.2 percent were Hispanic, and 19.3 percent were white. Comparing these percentages by racial group, chi-square analysis produced a value of .174 with $p > .05$, which is not statistically significant (Table 1). This result indicates that when individual patients of different races were compared, there was no significant difference in the number of violent incidents noted in individuals of different racial groups.

The total number of restraint episodes over the study period was 7,925, with the most frequent type of restraints used being wrist restraints (75.6%), followed by four-point restraints (17.3%), with five-point restraints (7.1%) being used least often. Asians accounted for 4.0 percent, blacks 52.0 percent, Hispanics 29.8 percent, and whites 14.2 percent of the total of restraint episodes. Chi-square analysis produced a value of 4.57 with $p > .05$, which is not statistically significant (Table 2). These data show that restraints were not used with any greater frequency in any particular racial group.

Of the total sample of 806 patients, 289 had ever had an incident of any type of physical restraints applied during the study period. This represented 35.9 percent of the total sample. Of those who had ever been restrained, 2.8 percent were Asian, 60.6 percent were black, 19.4 percent were Hispanic, and 17.3 percent were white. Comparing the groups by race, chi-square analysis produced a value of .63 with

**Table 1** Violent Episodes and Violent Incidents

| Racial Group | Expected % | Observed % Violent Episodes* | Observed % Violent Incidents† |
|---|---|---|---|
| Asian | 3.2 | 5.3 | 3.0 |
| Black | 56.7 | 54.0 | 57.6 |
| Hispanic | 21.7 | 22.2 | 20.2 |
| White | 18.4 | 18.5 | 19.3 |

* Chi-square = 1.521; $P > 0.05$.
† Chi-square = 0.174; $P > .05$.

**Table 2** Episodes and Incidents of Restraint and Seclusion

| Racial Group | Expected % | Observed % Episodes of Restraint* | Observed % Incidents of Restraint† | Observed % Episodes of Seclusion‡ | Observed % Incidents of Seclusion§ |
|---|---|---|---|---|---|
| Asian | 3.2 | 4.0 | 2.8 | 7.5 | 2.9 |
| Black | 56.7 | 52.0 | 60.6 | 65.0 | 59.7 |
| Hispanic | 21.7 | 29.8 | 19.4 | 16.8 | 20.3 |
| White | 18.4 | 14.2 | 17.3 | 10.8 | 17.1 |

* Chi-square = 4.57; $P > 0.05$.
† Chi-square = 0.63; $P > 0.05$.
‡ Chi-square = 11.24; $P < 0.05$.
§ Chi-square = 0.37; $P > 0.05$.

$p > .05$, which is not statistically significant (Table 2).

The total number of seclusion episodes during the study period was 3,227, with Asians accounting for 7.5 percent, blacks for 65.0 percent, Hispanics for 16.8 percent, and whites for 10.8 percent of the total number of seclusions. Chi-square analysis produced a value of 11.24 with $p < .05$, which is statistically significant. Both Asian and black patients were secluded more often than would be predicted based on their percentages in the total population at Kirby, while both Hispanics and whites were secluded less often than would be expected based on their percentages in the total population at Kirby (Table 2).

Of the 806 subjects in the study, 345 had ever had an incident of seclusion. This represents 42.8 percent of the total sample. Of all patients who were ever secluded during the study period, 2.9 percent were Asian, 59.7 percent black, 20.3 percent Hispanic, and 17.1 percent white. Chi-square analysis produced a value of .37 with $p > .05$, which is not statistically significant (Table 2).

Comparing the mean amount of time spent in restraints, the average time in minutes in each racial group was 60 minutes in Asians, 85 minutes in blacks, 78 minutes in Hispanics, and 92 minutes in whites. Based on three degrees of freedom, the *F* ratio from analysis of variance was 0.4262, which is not statistically significant (Table 3). When the amount of time in seclusion was compared, the average time in minutes for each racial group was 85 minutes in Asians, 98 minutes in blacks, 121 minutes in Hispanics, and 137 minutes in whites. This result was not statistically significant (Table 3).

## Discussion

In several cases, researchers have found that patients of minority racial groups are restrained and secluded more often than white patients. In some cases, this may have been attributable to racial bias. In other instances, researchers indicated that different rates of seclusion and/or restraint could have been due to differences in diagnoses when racial groups were compared. For episodes of seclusion in this study, Asian and black patients were placed in seclusion significantly more often than were white and Hispanic patients. However, when incidents of seclusion were compared among individuals of different racial groups, the statistically significant difference disappeared. Calculating the total number of seclusion incidents may have eliminated individual "outliers" or patients whose individual data skewed the number of times seclusion was used in their particular racial group because of repeated episodes of seclusion. If a few individual patients in the Asian and black populations were secluded multiple times, it may have caused an apparent increase in the number of episodes within those racial groups, respectively. If the increased episodes were due to a few such individuals, it would not necessarily indicate a greater likelihood on the part of clinicians to place members of any particular racial group in seclusion, thereby decreasing the likelihood of clinician bias.

Data from this study at Kirby Forensic Psychiatric Center indicates that at this particular facility, there are no significant differences when rates of restraint and/or seclusion are compared by race of individual patients. Such an apparent lack of bias may be due to several different factors, such as more racial and ethnic diversity among the staff. For example, during the course of study, the treatment teams at Kirby included psychiatrists from Cuba, India, Haiti, Eastern Europe, and Ireland as well as American-born psychiatrists from different ethnic backgrounds. Perhaps more important, the staff at Kirby receives a detailed orientation to the hospital, including exten-

**Table 3** Time Spent in Restraints and Time Spent in Seclusion

| Racial Group | Mean Amount of Time in Restraints | Standard Deviation ($F$ Ratio = 0.4264) | Mean Amount of Time in Seclusion | Standard Deviation ($F$ Ratio = 1.6934) |
|---|---|---|---|---|
| Asian | 60 | 124 | 85 | 143 |
| Black | 85 | 142 | 98 | 168 |
| Hispanic | 78 | 179 | 73 | 121 |
| White | 92 | 189 | 72 | 137 |

Data are expressed in minutes.

sive training in dealing with aggressive patients and detailed policies and procedures for restraint and seclusion. The changes in Joint Commission on Accreditation of Healthcare Organizations (JCAHO) guidelines in 2000 had no effect on the hospital's restraint and seclusion policy, because the hospital's policy was already in full compliance with the guidelines. There were changes to the hospital's restraint and seclusion policy during the years under review; however, these changes did not involve dramatic alterations in the process and applied equally to all patients. For example, changes typically involved decreasing the permissible length of an order for restraint or seclusion, therefore requiring a new order when the time had elapsed.

The level of education of staff members has been shown to affect patterns of use of physical restraint and seclusion.[12] The staff at Kirby receives annual updated training designed to reinforce previous lessons and to provide updates on any policy or procedure changes. During the course of this study, Kirby Forensic Psychiatric Center sponsored a day-long conference on racial issues in psychiatric treatment. Such a conference and others like it would seemingly help to increase clinicians' awareness about racial issues and their own possible racial biases. In addition, the clinical leadership of the hospital reviews each episode of restraint or seclusion on a daily basis. This could help to make individual clinicians more aware of their own practices with regard to restraints and seclusion and, it is hoped, would also allow the hospital leadership to become aware of any biased practices.

Notably, while there were 7,925 episodes of restraint and 3,227 episodes of seclusion, there were only 4,538 episodes of violence during the study period. There were fewer violent episodes than there were episodes of restraint and seclusion, because restraint and seclusion procedures were often applied when aggressive behavior was demonstrated though no physical contact was made. For example, this would include when an assault was attempted but not successfully completed. Though attempted assaults are certainly violent acts, for the purpose of this study "violent incidents" were defined as actual physical assaults, fighting, or self-abuse and did not include attempted violence.

Flaherty *et al.* in 1981[13] found that patients of different racial backgrounds perceive the same ward environment differently. Attitudes held by both patients and staff about seclusion in general may affect the treatment process and the milieu on an inpatient unit.[14] Further study would be helpful in understanding the factors that are responsible for what may be more racially equitable treatment noted at Kirby, which would likely be useful in other settings. The overall hope of the authors of the present article is that of providing better care and culturally appropriate treatment for all patients.

This study is limited by the fact that it is retrospective in its approach, and no data were available on the threshold used by clinicians before deciding that any individual patient requires seclusion and/or restraints. If a lower threshold is used in patients of certain racial groups, this could also reflect stereotypical views based on race and biases in treatment. Another limitation is that the database used for this article does not include information specific to individual patients. Therefore, it cannot be said with certainty that the higher level of episodes of seclusion noted in Asian and black patients simply reflects a small number of individual patients who were secluded multiple times, thus skewing the results. Though not certain, it is likely that this statistic does represent skewing, since the same statistical significance was not present in Asian and black patients when incidents of seclusion per individual were considered. This study is also limited by the rigid categories that were used in defining racial identity. The categories did not include multiracial identities, which may be a more appropriate descriptor for some patients. Also, in many cases, the race of the patient

**Table 4** Racial Statistics

| Racial Group | New York State* | New York City* | Kirby Forensic Psychiatric Center |
|---|---|---|---|
| Asian | 5.5 | 10 | 3.2 |
| Black | 15.9 | 25 | 56.7 |
| Hispanic | 15.1 | 27 | 21.7 |
| White | 67.9 | 35 | 18.4 |

* Derived from U.S. Census Bureau, 2000. Data are percentages.

may have been the evaluating clinician's perspective of a given patient's race. This perspective may differ from the patient's own self-concept of racial identity.

Perhaps one of the most striking pieces of data in this article is the over-representation of certain minority groups in the patient population at Kirby. In particular, blacks represented only 25 percent of the population in New York City in 2000 when this study was concluded; however, they represented over 56 percent of the population at Kirby (Table 4). This is a disturbing disparity. Even more disturbing is that the over-representation of blacks in correctional settings is unfortunately not unique to Kirby. The question of why some minority groups compose such a high percentage of detained populations is certainly beyond the scope of this study. It seems clear that the answer would require thorough exploration of multiple complex issues, including racial, social, and economic factors and issues in law enforcement and the judicial system. While this study makes no attempt to address these important questions, it is hoped that it will help at least to increase awareness regarding race and the potential for bias in the inpatient setting.

## Acknowledgments

The authors gratefully thank Randall Fasnacht, MBA, for providing expertise in data collection and statistical analysis and James Hicks, MD, for invaluable guidance and support.

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