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Comparing aggression between young-adult and general admission patients in a state-inpatient psychiatric hospital

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COMPARING AGGRESSION BETWEEN YOUNG-ADULT AND GENERAL ADMISSION PATIENTS IN A STATE-INPATIENT PSYCHIATRIC HOSPITAL

BY

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ABSTRACT

Because of the inherent danger surrounding violence, aggression studies are particularly important for those working in a health care setting. A constant variable in aggression studies that poses many risk factors is age. This study examined characteristics of aggressors contained on one of six inpatient units at a state psychiatric hospital, located in West Virginia. Included on the unit was the neo-adult program and some general admission patients. The study evaluated all aggressors on the unit between September 1997 and August 1998. Comparisons were made to distinguish any possible differences or similarities between the two groups. The results indicated some differences relating to age of aggressor. Young-adult aggressors showed a higher rate of depressive disorders and personality variables. Results also showed the young-adult sample as more likely to report having an abuse history. Both mania and psychosis were more prominent with the general admission subjects, as well as having a higher income level. Similarities between the groups indicated aggressors were likely to have a suicide history, substance abuse history, and violence history. Both groups were also likely to be Caucasian and not have an

employment history. A future study should include comparing these results to non-aggressive inpatients to show any differences.

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INTRODUCTION

Due to the seriousness of its nature, violence in the workplace is a growing concern. One place this is particularly true is in a health care setting. Blow, Barry, Copeland, McCormick, Lehmann, & Ullman (1999) site a report by the National Institute for Occupational Safety and Health which found that, due to acts of workplace violence, one million workers are assaulted every year. Studies have shown that 2 % of a hospital's budget can be accounted for by time lost from injuries (Hillbrand, Foster, & Spitz, 1996), while another study by Yassi (1994) reported a loss of over 8000 hours and $76,000 in compensation costs during a 2 year period in one facility. Violence on inpatient units has been shown to be related to overcrowding, staff inexperience, poor management practices, and tolerance of violence (Davis, 1991). Another study found staff members' professional discipline strongly associated with the risk of assault (Binder & McNeil, 1994). This is supported by other studies (Carmel & Hunter, 1993; Hillbrand et al., 1996; Kelsall, Dolan, & Bailey, 1995; Owen, Tarantello, Jones, & Tennant, 1998) which suggest that front-line nursing staff are the ones most likely to be assaulted.

When examining injuries at psychiatric facilities, many studies found relatively minor injuries (Black, Compton, Wetzel, Minchin, Farber, & Rastogi-Cruz, 1994; Cheung, Schweitzer, Tuckwell, & Crowley, 1996; Kellsall et al., 1995; Wynn & Bratlid, 1998), however in another study (Owen et al., 1998) results show 58% of injuries were classified as serious when using objective measures. Additionally, health care staffs are exposed to and frequently experience traumatically stressful events on the job (Caldwell, 1992). This study indicated that more than one staff member in 20 suffers from Posttraumatic Stress Disorder. Because of the inherent danger in the health care setting, it is important to recognize who would most likely be aggressive.

Review of the Literature

Many researchers have attempted to examine violent behavior and the factors surrounding it. Studies include investigating seclusion and restraint, frequency, gender differences, and risk factors.

James, Fineberg, Shah, & Priest (1990) looked at the associated factors leading to an increase in violence on an acute psychiatric ward. Comparisons were made between the violent and non-violent patients. The study also examined the number and type of violent and non-violent incidents. Results of the study found violence to be associated more

with younger patients, schizophrenics, and those having a history of violence before admission. However, no consistent associations were found with regard to gender or ethnic orientation. The authors also found violent patients to be admitted compulsorily and less likely to be depressed.

Davis (1991) shows similar results in a study which looked at violence by psychiatric inpatients. Of those individuals who behaved aggressively, factors associated with assertive behavior included acute illness, psychosis, drug abuse, younger age, and history of violence. The study also included looking at situational variables and structural factors. Common situational factors found were overcrowding, provocation, staff inexperience, and management tolerance of violence. The structural factors involving violence included the changes in mental health policy which allows dangerousness as the criterion for commitment and having a shortage of treatment resources.

Dickerson, Ringel, Parente, & Boronow (1994) studied assaultive behavior with seclusion and restraint. Subjects included involved patients being treated at an inpatient program for chronic schizophrenia at a private psychiatric hospital. The study examined the relationship between patients' performance in a token economy and their subsequent aggressiveness. Results of the study indicate

several factors associated with assaultive behavior including younger age, prior history of violence, shorter duration of illness, cognitive or neurological impairments, psychotic symptoms, anger and agitation.

When examining the relationship between gender and aggression, several studies have shown males as being more aggressive than females (Foust & Rhee, 1993; Sebit, Siziya, Acuda, & Mhondoro, 1998). An exception to this finding came from Wynn & Bratlid (1998) who found female patients assaulting at a higher incident rate.

Agarwal & Roberts (1996) examined the forensic population in regard to aggressive behaviors. Results show that patients detained under criminal sections were not as likely to show aggression, and the aggressors were younger in age than non-aggressors. It was also cited that the best predictor of physical aggression was verbally abusive behavior, in addition to a person's past history of violence.

One variable that is constant in all of these studies that poses a specific and relevant risk factor for violence is age.

A study by Hoffman, Wyler, & Kupper (1993) found several factors that contribute to the increase in aggression rates of younger adult patients as compared to

older adults. These factors include severe ego deficits, intolerance of stress, unstable affect, lack of insight, and various diagnoses, mostly schizophrenia and personality disorder complicated by substance abuse. The authors also found that among those young-adult patients suffering with a personality disorder, borderline traits, antisocial traits, and rebelliousness are common. Other factors include unattainable goals, identity revolving around drug use, and frequent suicidal thoughts (Pepper, 1985).

Young aggressors typically have severe and persistent disabilities in social and psychological functioning and virtually no natural support systems (Hoffman et al., 1995). The authors also found this group to be predominantly unemployed and dependent on the state.

Blumenthal (1990) found integration into an overall system of care as a key component when working with the unique needs of younger psychiatric patients. Because of their special needs, young-adults can be treated together on one unit. Special care must be taken in these circumstances due to the increased risk of violence to other patients and staff.

Purpose of Study

This study compared the characteristics of young-adults who behaved aggressively to characteristics of general

admission patients who behaved aggressively. Comparisons were made to examine any possible differences or similarities between the two groups. It was anticipated that the young-adult sample would have a higher proportion of depressive disorders than the general admission sample. It was also predicted that the young-adult sample would have a higher proportion of personality disorders and/or traits than the non-young adult sample. Number of incidents were recorded. It was anticipated that the young-adult sample would have a higher average number of incidents than the general admission sample. Level of education and reported abuse history of aggressor were factors thought to contribute to aggression. In regard to education, it was predicted that aggressors would have a lower than high school education level. Anticipation of reported abuse history (report of emotional, physical, and/or sexual abuse/ no report of abuse) was that the young-adult sample would have a higher reporting rate than the general admission sample.

METHOD

Participants

The study involved a 24-bed inpatient unit and was co-ed. The unit was one of six units at William R. Sharpe Jr. Hospital, a 150-bed Joint Commission on Accreditation of

Healthcare Organizations (JCAHO) accredited state psychiatric hospital. Included on the unit was the neo-adult program, funded by Medicaid, and some general admission patients. The neo-adult program served all patients admitted to the facility between the age of 18 years 0 months through 20 years 11 months. Any patient older than 20 years 11 months was admitted on a rotating basis with the other units. Of those admitted to the unit, all were involuntarily committed and diagnoses were various (including chronic mental illness, severe personality disorders and those dully diagnosed). Additionally, a token economy system was used on the unit for management and treatment (LePage, 1999).

Procedure

The study evaluated the incident rates of all aggressors on the unit. Aggression was defined as patient-to-patient aggression (patients who injured other patients), patient-to-staff aggression (patients who injured staff), and acts which could cause serious damage (e.g., throwing chairs or objects). Patients who committed aggressive acts to themselves were not included in the study unless the act was aimed at or caused injury to another person. One non-young adult patient was excluded as an outlier due to an extremely high rate of violence. Incident records were reviewed between 9/1/97 and 8/31/98. Unit staff reported

patients' aggressive actions on an incident report. All incident reports were turned into a centralized location. After reviewing the incident reports, a list was made of all aggressors. The list consisted of 38 subjects, 17 young-adult aggressors and 21 general admission aggressors. After reviewing the literature a list of variables was made to examine all aspects of the aggressor and any factor thought to contribute to aggression. Those variables examined were: age (young-adult aggressors/general admission aggressors); gender (male/female); ethnic orientation (African American/Caucasian); education level (high school/GED and above/below high school); substance abuse history (yes/no); legal history (yes/no); employment history (yes/no); income (amount of income); reported abuse history (yes/no); violence history (yes/no); number of admissions (number of admissions thru 8-31-98); length of stay to event (number of days from admission until aggressive act); suicide history (yes/no); homicidal history (yes/no); Axis I diagnosis (yes/no): mood (depressed/manic), psychotic, alcohol, drug, polysubstance, other disorder; Axis II diagnosis (yes/no): mental retardation or borderline intellectual functioning, personality disorder or personality traits; and each separate event (yes/no). Records were reviewed to examine the characteristics, demographic data, and any specific

trait of those patients. Each variable was entered into a computer database and coded.

Statistical Analysis

To evaluate the differences that existed between the young-adult and general admission patients who were involved in aggressive behavior, two statistical analyses were performed using the Statistical Package for the Social Sciences (SPSS) 7.5 computer program. The first analyses performed were independent-sample t-tests, which examined the mean differences between the two samples. The second analyses, used to describe any relationship between the frequency and patient characteristics, were crosstabulation and chi-square tests of independence, specifically Fisher's Exact Test. Fisher's Exact Test was utilized to account for the small sample sizes in some of the cells. All tables regarding statistical analysis are located in Appendix A.

RESULTS

During the year long study, 38 patients committed aggressive acts. The young-adult sample contained 17 subjects, while the general admission sample contained 21. It was anticipated that the young-adult sample would have a higher incident rate more often than the non-young adult sample, however, when the independent-sample t-test was run, results indicated no statistical significance. Young-adult

aggressors had a mean number of events of 2.11 (SD = 1.61) while the general admission sample had a mean of 1.85 (SD = 1.15) [SEE TABLE 1]. Likewise, statistical significance was not obtained when examining length of stay to each event. The young-adult sample had a mean number of days prior to each event of: event 1 M = 20.11, SD = 16.81; event 2 M = 52.44, SD = 60.18; event 3 M = 16.75, SD = 9.14; event 4 M = 28.00, SD = 21.21; event 5 M = 34.00, SD = 18.38; and event 6 M = 5.00, SD = 0.00. The general admission sample had a mean number of days prior to each event of: event 1 M = 32.71, SD = 58.46; event 2 M = 36.50, SD = 24.18; event 3 M = 52.80, SD = 34.25; event 4 M = 54.50, SD = 75.66; event 5 M = 1.00, SD = 0.00; and event 6, could not be calculated for the general admission sample because no patient in this sample had a sixth aggressive act [SEE TABLE 1]. Number of admissions were analyzed. No statistical significance was obtained between the samples. Young-adult aggressors had a mean number of admissions of 2.23 (SD = 1.71) while the non-young adult aggressors had a mean of 4.38 (SD = 4.66) [SEE TABLE 1].

The study also examined educational and economical variables using t-tests. It was anticipated that aggressors would have a lower than high school education level. The young-adult sample obtained a mean education level of 10.94

(SD = 1.39) and the general admission patients obtained a mean of 10.71 (SD = 2.02). This indicated both groups to have a mean education level lower than high school or its equivalent [SEE TABLE 1]. Statistical significance was observed between the mean income levels of the two groups (young-adults M = $219.21, SD = 242.72 and non-young adults M = $543.37, SD = 472.79) [SEE TABLE 1], however, analysis indicated 76 % of the young-adult sample (N = 13) and 71 % of the non-young adult sample (N = 15) did not have an employment history [SEE TABLE 2].

Of the 38 patients in the sample, demographic data shows 94 % of both samples to be Caucasian (N = 36) and 6 % were African American (N = 2). Results on gender of aggressor indicated, 66 % (N = 25) of both samples were male and 34 % (N = 13) were female [SEE TABLE 2].

Report of abuse was analyzed with Fisher's Exact Test. Results indicated statistical significance with the young-adult aggressors being more likely to report being abused than the non-young adult aggressors ($X^2(1, \underline{N} = 38) = 4.821$, $\underline{p} < .046$) [SEE TABLE 2].

Significance was also obtained in regard to diagnosis at the time of admission. Young-adult aggressors were more likely to have a diagnosis with depression associated (e.g., Major Depression; Dysthymia; Mood Disorder, NOS;

Schizoaffective Disorder, depressed; and Adjustment Disorder with mixed emotional features, or with depressed mood), ($X^2(1, N = 38) = 4.795, p < .042$), while general admission aggressors were statistically more likely to meet criteria for mania, ($X^2(1, N = 38) = 5.590, p < .034$) and/or psychotic symptoms ($X^2(1, N = 38) = 4.962, p < .048$) [SEE TABLE 2]. Other diagnosis variables analyzed were substance abuse/dependence disorders (e.g., alcohol, drug, or polysubstance). No statistical significance was found between the samples with regard to alcohol diagnosis ($X^2(1, N = 38) = .215, p < .709$), drug diagnosis ($X^2(1, N = 38) = .080, p < 1.00$), or polysubstance diagnosis ($X^2(1, N = 38) = .543, p < .640$) [SEE TABLE 2]. When looking at personality disorders or traits, the young-adult sample was significantly more likely to have this diagnosis ($X^2(1, N = 38) = 6.446, p < .020$). Neither group was more likely to have a diagnosis of mental retardation or borderline intellectual functioning ($X^2(1, N = 38) = .534, p < .678$) [SEE TABLE 2].

Although results indicated no significant differences between the samples with regard to suicide history ($X^2(1, N = 38) = 1.910, p < .282$), substance abuse history ($X^2(1, N = 38) = .439, p < .721$), and violence history ($X^2(1, N = 38) = .543, p < .640$), both groups were likely to have those

characteristics [SEE TABLE 2]. Data with the young-adult sample indicated 82 % (N = 14) had a suicide history, 76 % (N = 13) had a substance abuse history, and 82 % (N = 14) had a violence history. The general admission results showed 61 % (N = 13) had a suicide history, 67 % (N = 14) had a substance abuse history, and 90 % (N = 19) had a violence history [SEE TABLE 2]. Data revealed no significant differences with the samples with regard to prior legal history ($X^2(1, N = 38) = .223, p < .744$) or homicidal history ($X^2(1, N = 38) = 2.237, p < .167$) [SEE TABLE 2].

DISCUSSION

This study found 75 incidents of aggression among 38 patients over a year. In a year, the average rate would be almost one incident every five days. This suggests an extremely hostile and unsafe work environment. It should be noted that this is an inpatient state psychiatric hospital and rates of aggression will vary greatly from one hospital to another. Due to the potential harm in aggressive acts, aggression studies can be very helpful. Different studies have shown the percentage of a hospital's budget accounted for by time lost from injuries (Hillbrand et al., 1996), which professional discipline was most likely to be assaulted (Binder & McNeil, 1994; Carmel & Hunter, 1993; Hillbrand et al., 1996; Kelsall et al., 1995; and Owen et

al., 1998), associated factors leading to an increase in violence (James et al., 1990), and factors associated with assertive behavior (Davis, 1991).

One factor studied and found to pose a specific and relevant risk for violence was age (James et al., 1990; Davis, 1991; Dickerson et al., 1994; Agarwal & Roberts, 1996; Hoffman et al., 1993; Pepper, 1985; and Blumenthal, 1990). It was anticipated that the young-adult aggressor's sample would have a higher average number of incidents per patient, however, this was found to be untrue. A possible explanation could be that the small sample sizes did not allow for enough power.

Another factor previously looked at in other studies was gender makeup (James et al., 1990; Foust & Rhee, 1993; Sebit et al., 1998; and Wynn & Bratlid, 1998). This study found no difference between the two groups. Though there were more males in the study, there was an equal proportion of females in both of the aggression groups. A possible account for this might be that gender is not a very discriminating factor when combined with age of aggressor.

In regard to education level and aggressors, though the mean education level was approximately at the tenth grade for both groups, aggressors were as likely to have a high school education as not. These results were surprising. It

was predicted that those who had not completed high school or its equivalent might have a greater propensity for impulsivity. Perhaps results would have been at a significant level if the sample sizes were larger.

Although a significant difference was observed between the mean income levels of the two groups, neither sample was likely to have an employment history. A possible explanation might be that the young-adult group had not been involved within the system long enough for services to be instituted.

Another anticipation was that the young-adult sample would report being abused more than the non-young adult sample. This study supported this hypothesis. One possible explanation could be that reporting abuse is more common and accepted in today's youth. Today abuse is also used by some as an excuse for behavior. These factors may obscure an accurate assessment of the role of abuse.

Diagnosis was also found to be a significant factor when examining aggression. Both mania and psychosis were more prominent with the general admission subjects. This study also found difference between the groups with the young-adults having more depressive disorders than the non-young adult subjects did. A possible explanation might be that young-adult aggressors are likely to show aggressive behaviors when they are apathetic and want to be alone.

Personality variables also showed the young-adult sample having a higher rate more so than the non-young adult sample. The nature of the disorder itself and a person's inflexibility in dealing with others and the environment could explain this. One possible explanation for the differences associated with diagnosis may be due to the different base rates of diagnosis at admission.

This study examined many variables previously found or thought to be associated with aggression. These characteristics did not differ in regard to age of the subject. Results showed both groups were equally likely to have a suicide history, substance abuse history, and violence history. Data also reflects both samples were equally likely to be Caucasian. This result possible reflects the fact that the majority of the patients were Caucasian. No differences were found in relation to each separate event or in the time to the event. Also, no significant differences were found with regard to the number of prior admissions between young-adult aggressors and non-young adult aggressors.

Due to the small sample sizes the results of this study must be interpreted with caution. Another possible limitation of this study lies in the fact that data was based on archival data. Data was based on available medical

records and diagnostic impressions of the discharging Psychiatrist.

The structural factors involved in the involuntary commitment process of state inpatient psychiatric hospitals targets dangerousness as a criterion. Because of the inherent danger associated with violence, it is important to recognize who would most likely be aggressive. It is anticipated that a future study should include gathering data on non-aggressors. Results of the future study should be compared to the results found here to distinguish any difference between those who behave aggressively and those who do not. If staff are able to identify the characteristics of possible aggressors, precautions can be taken to prevent possible injuries. Information from the future study could be also used to help hospital administration justify higher staffing levels at times so a shortage of treatment resources would not exist.

Appendix A

Tables

Table 1

T-Test Comparison of Variables

Variable Name	Young Adult/ Other	N	Mean	S.D.	Probability (2-tailed)	Significance
Admissions	YA	17	2.23	1.71	0.081	
	O	21	4.38	4.66		
Education	YA	17	10.94	1.39	0.697	
	O	21	10.71	2.02		
Income	YA	17	219.2	242.7	0.015	*
	O	21	543.4	472.8		
Event 1	YA	17	4.11	1.72	0.894	
	O	21	4.04	1.49		
Event 2	YA	17	2.35	1.57	0.168	
	O	21	1.76	0.99		
Event 3	YA	17	1.58	1.17	0.705	
	O	21	1.76	1.54		
Event 4	YA	17	1.11	0.33	0.689	
	O	21	1.19	0.67		
Event 5	YA	17	1.23	0.75	0.283	
	O	21	1.04	0.21		
Event 6	YA	17	1.23	0.75	0.159	
	O	21	1	0		

* Significance = p < .05

Table 1 continued on page 20

Table 1 (cont.)

T-Test Comparison of Variables

Variable Name	Young Adult/ Other	N	Mean	S.D.	Probability (2-tailed)	Significance
Time to Event 1	YA	17	20.11	16.81	0.397	
	O	21	32.71	58.46		
Time to Event 2	YA	17	52.44	60.18	0.45	
	O	21	36.5	24.18		
Time to Event 3	YA	17	16.75	9.14	0.083	
	O	21	52.8	34.25		
Time to Event 4	YA	17	28	21.21	0.68	
	O	21	54.5	75.66		
Time to Event 5	YA	17	34	18.38	0.381	
	O	21	1	0		
Time to Event 6	YA	17	5	0	0	
	O	21	0	0		
Number of Events	YA	17	2.11	1.61	0.566	
	O	21	1.85	1.15		

* Significance = $p < .05$

Table 2

Chi-Square Comparison of Variables

Variable Name	Young-Adult / Other	No	Yes	N	df	Value	Exact Significance (2-sided)	Significance
(Reported)Abuse	YA	7	10	38	1	4.821	0.046	*
	O	16	5					
(Axis I)	YA	14	3	38	1	0.215	0.709	
Alcohol	O	16	5					
Drug	YA	14	3	38	1	0.08	1	
	O	18	3					
Polysubstance	YA	14	3	38	1	0.543	0.64	
	O	19	2					
Mood (Manic)	YA	15	2	38	1	5.59	0.034	*
	O	11	10					
Mood (Dep)	YA	8	9	38	1	4.795	0.042	*
	O	17	4					
Psychotic	YA	11	6	38	1	4.962	0.048	*
	O	6	15					
Other Axis I	YA	14	3	38	1	0.543	0.64	
	O	19	2					
(Axis II)	YA	13	4	38	1	0.534	0.678	
MR/Border IQ	O	18	3					
Personal/Traits	YA	6	11	38	1	6.446	0.02	*
	O	16	5					
Event 2	YA	8	9	38	1	0.106	1	
	O	11	10					
Event 3	YA	13	4	38	1	0	1	
	O	16	5					

* Significance = $p < .05$

Table 2 continued on page 22

Table 2 (Cont.)

Chi-Square Comparison of Variables

Variable Name	Young-Adult /Other	No	Yes	N	df	Value	Exact Significance (2-tailed)	Significance
Event 4	YA	15	2	38	1	0.05	1	
	O	19	2					
Event 5	YA	15	2	38	1	0.634	0.577	
	O	20	1					
Event 6	YA	15	2	38	1	2.608	0.193	
	O	21	0					
Education		HS/GED	< HS					
	YA	10	7	38	1	0.958	0.515	
	O	9	12					
Employment Hx	YA	13	4	38	1	0.123	1	
	O	15	6					
Ethnicity		Cauc	Afr/Am					
	YA	16	1	38	1	0.024	1	
	O	20	1					
Gender		Female	Male					
	YA	6	11	38	1	0.016	1	
	O	7	14					
Homocidal Hx	YA	10	7	38	1	2.237	0.167	
	O	17	4					
Legal Hx	YA	6	11	38	1	0.225	0.744	
	O	9	12					
Substance Abuse	YA	4	13	38	1	0.439	0.721	
	O	7	14					
Suicide Hx	YA	3	14	38	1	1.91	0.282	
	O	8	13					
Violence Hx	YA	3	14	38	1	0.543	0.64	
	O	2	19					

* Significance = $p < .05$

Appendix B

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