

Research letter

Determinants of violence in the psychiatric emergency service

Adam Oster, Stan Bernbaum, Scott Patten

Few studies have evaluated predictors of violence in psychiatric emergency services. A search of MEDLINE, PubMed and PSYCHINFO databases (1966 to July 2000) with relevant key words generated a list of 26 original articles on the identification of risk factors. Of these articles, only 2 pertained to violence in this context. The first was a review of 99 consecutive patients who were identified by emergency department staff as being violent or potentially violent; it showed that being male or having a history of alcohol abuse was correlated with violent behaviour.¹ In the other study, weapon possession also appeared to be more common among men and patients with a history of substance abuse.²

We conducted a study to determine predictors of violence in a 24-hour psychiatric emergency service at the Calgary General Hospital. Between 1994 and 1998, psychiatrists, residents and psychiatric nurses in the psychiatric emergency service recorded clinical information about each patient on a dedicated form. Completion of these forms was part of routine patient assessment. Information captured included diagnosis, referral source, history (e.g., prior psychiatric admissions, history of alcohol or substance abuse, history of serious physical violence toward others) and incidents that occurred in the psychiatric emergency service. This information was subsequently coded and stored in a database. A database manager monitored data quality and completeness. The database was not validated externally; however, the information was usually recorded by the same staff member responsible for the patient assessment. These assessments are typically comprehensive, so we felt that the available information would be of good quality. The Health Research Ethics Board at the University of Calgary approved the study.

There were 10 582 presentations to the psychiatric emergency service during the study period. The main diagnoses were as follows: substance-induced psychotic disorder (23%), depressive disorder (23%), adjustment disorder (20%), schizophrenia or psychosis not otherwise specified (19%), bipolar disorder (5%), anxiety disorder (2%) and other (8%).

Violence, defined as physically or verbally assaultive or

aggressive behaviour, occurred in 758 (7.2%) of the visits. Of these, 687 (90.6%) involved verbal aggression and 241 (31.8%) involved physical aggression. A number of patients were both verbally and physically aggressive. Incidents ranged from staff being verbally abused or spat on, to extremely serious incidents involving physical injury.

Violence was most strongly associated with 3 clinical variables: a history of violence (risk ratio [RR] 2.73, 95% confidence interval [CI] 2.34–3.18), a diagnosis of schizophrenia or psychotic disorder not otherwise specified (RR 1.91, 95% CI 1.62–2.26) and having a low score on the Global Assessment of Functioning (GAF) Scale³ (< 26) (RR 3.10, 95% CI 2.59–3.71). The cumulative effect of these predictors was approximately additive (Fig. 1). There was no indication of an increased rate of violence over the study period. Historical and diagnostic indicators of substance abuse, including alcohol, were less strongly associated with violence than these 3 variables. For example, of 930 pa-

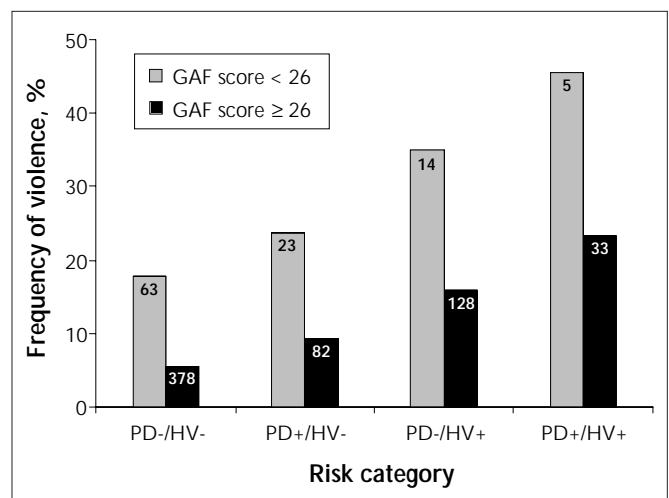


Fig. 1: Frequency of violence among patients presenting to a hospital psychiatric emergency service from 1994 to 1998, by risk category (diagnosis of psychiatric disorder or history of violence). Numbers in bars represent number of patients. GAF = Global Assessment Functioning Scale,³ PD = psychotic disorder, HV = history of violence.

tients diagnosed with alcohol intoxication or withdrawal, 99 (10.6%) were violent. This association was highly statistically significant ($p < 0.001$), but the RR (1.56, 95% CI 1.28–1.90) indicated a relatively weak magnitude of association. Of the 4265 patients with a history of previous alcohol or substance abuse, 400 (9.4%) were violent (RR 1.43, 95% CI 1.24–1.64, $p < 0.001$).

The frequency of violence among female patients (6.6% [364/5477]) was similar to that among male patients (7.7% [394/5105]). Furthermore, men were only slightly more likely than women to use physical aggression in violent incidents (34.5% [136/394] v. 28.8% [105/364]) (RR 1.20, 95% CI 0.97–1.48).

These findings are partially consistent with those from previous studies.^{1,2} The reported statistically significant association of violence with substance abuse was replicated here, although the magnitude of the observed association was weak relative to the associations observed for psychotic disorders, history of violence and low GAF score. Our findings suggest that the latter variables are more clinically important predictors.

The failure of previous studies to identify these factors may relate to type II error, since our study had a much larger sample than previous studies. The lack of association between patient sex and violence is difficult to explain. Given the large sample, type II error is unlikely. The negative finding may be an artifact of the referral pattern (selection bias), it may reflect a greater hesitancy to code women as violent (misclassification bias), or it may be a valid result, reflecting changing patterns of violent behaviour in relation to patient sex.

This article has been peer reviewed.

Adam Oster is a medical student with the Faculty of Medicine, University of Calgary, Class of 2001. Stan Bernbaum is with the Department of Emergency Medicine, and Scott Patten is with the Departments of Community Health Sciences and Psychiatry, University of Calgary, Calgary, Alta.

Competing interests: None declared.

Contributors: All of the authors contributed to the study design and data analysis. Mr. Oster wrote and revised the article, Dr. Bernbaum contributed to the revisions of the article, and Dr. Patten supervised the project and edited the final versions of the article.

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Reprint requests to: Adam Oster, Faculty of Medicine, University of Calgary, c/o Medical Instructional Resources, 2500 University Dr. NW, Calgary AB T2N 1N4; fax 403 283-0210; aoster@ucalgary.ca

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