

Les incidents dans un contexte de psychiatrie légale : association des caractéristiques des patients et du personnel

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Les incidents liés aux patients sont d'un intérêt particulier pour les personnes qui travaillent avec les populations recevant des services de psychiatrie légale. Les témoignages suggèrent que la personnalité, le stress et l'épuisement professionnel du personnel infirmier permettent de prédire certains incidents. Cependant, la relation existant entre ces facteurs et les interactions personnel-patient et les incidents qui se produisent dans ces interactions n'a pas fait l'objet d'une étude approfondie. Les auteurs ont recueilli des données sur la nature des incidents survenus dans un service de médecine légale d'un hôpital psychiatrique pendant un an, ainsi que des données sur les caractéristiques des 13 membres du personnel. Ils ont trouvé que 10 % des patients étaient responsables de 58 % des incidents. Les patients souffrant de schizophrénie étaient ceux qui étaient les plus impliqués dans les incidents. La fréquence d'incidents non violents variait d'une équipe de soins infirmiers à l'autre d'une façon plus importante que ne peut l'expliquer le hasard. Il a également été constaté qu'il existait une relation entre les incidents et certaines caractéristiques du personnel. Ces résultats mettent en lumière la nécessité de faire de plus amples recherches sur les incidents qui se produisent dans les situations où les attributs des patients, ceux du personnel soignant et les facteurs environnementaux produisent des interactions complexes.

Mots clés : Psychiatrie, légal, établissements psychiatriques, personnel infirmier hospitalier, personne placée en établissement, incidents avec des patients

Incidents in a Psychiatric Forensic Setting: Association with Patient and Staff Characteristics

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Patient-related incidents are of particular concern for those working with forensic psychiatric populations. Evidence suggests that personality, stress, and burnout of nursing staff are predictive of incidents. However, the exact relationship of these factors with staff-patient interactions and the incidents that occur within these interactions have not been thoroughly explored. The authors collected data on the nature of incidents on a forensic unit within a psychiatric hospital over a 1-year period, as well as data on the characteristics of 13 staff members. They found that 10% of patients were responsible for 58% of the incidents. Patients with a diagnosis of schizophrenia were disproportionately involved in incidents. The frequency of non-violent incidents varied among nursing teams to an extent greater than that expected by chance. A relationship between incidents and some staff characteristics was also found. These results highlight the need for further research into the incidents that occur in situations where patient attributes, nurse attributes, and environmental factors produce complex interactions.

Keywords: Psychiatric, forensic, mental institutions, hospital nursing staff, institutionalized persons, patient incidents

Mental health facilities have clear concerns regarding the issue of patient-related incidents. Rates of aggression and violence, as well as the number of incidents per patient, have been increasing on psychiatric wards (Bond & Brimblecombe, 2003). For example, in an investigation of 1,144 incidents within a secure psychiatric facility, 61% were characterized as serious and 31% as life-threatening to either staff or patients (Larkin, Murtagh, & Jones, 1988). Researchers have found that the majority of incidents are caused by a disproportionately small number of patients (Hardie, 1999; Kennedy, Harrison, Hillis, & Bluglass, 1995; Morrison et al., 2002; Owen, Tarantello, Jones, & Tennant, 1998), the majority of whom meet diagnostic criteria for either a personality disorder (Pullman & Lorbergs, 2001) or a substance abuse disorder (Abeyasinghe & Jayasekera, 2003; Volavka et al., 1995). Volavka and colleagues note that the offending patient is demographically more representative of the general criminal population than the psychiatric inpatient population. Research by Bowers, Simpson, and Alexander (2003) suggests that there

may be different motivations and causes behind the violent behaviour of inpatients. For example, conflict behaviour may be the result of a refusal to accept mental illness status, disagreement about the treatment being received, or learned aggression.

Incidents on forensic wards have also been explored from the staff perspective. Staff injuries occur with greater frequency and are more serious in forensic settings than in other high-risk settings (Love & Hunter, 1996; Zimmer & Cabelus, 2003). The majority of injuries sustained in psychiatric settings are reported by nursing staff (Erdos & Hughes, 2001). Psychiatric nurses are at risk of assault by patients (Morrison et al., 2002; Whittington & Wykes, 1994a, 1996), and those nurses who have been assaulted on multiple occasions are significantly more likely to have been assaulted by the same individual (Morrison et al.; Whittington & Wykes, 1994a, 1994b, 1996). Nurses' personality attributes, stress levels, and perceived work environment may contribute, both individually and interpersonally, to work behaviours that lead to patient-related incidents. Stress hypotheses suggest that, up to a certain level, stress is beneficial to job performance (Miner, 1992). Stress at an optimum level leads to arousal and increased attention, but when it rises above optimum levels there is evidence of increased levels of poor performance, job dissatisfaction, and absenteeism (Ivancevich & Matteson, 1980; Miner). Clearly related to stress is the concept of burnout. Burnout entails a chronic stress reaction, including emotional exhaustion, loss of interest and trust, and increased feelings of concern (Maslach, 1982). Practitioners experiencing burnout tend to display a decreased ability to deal effectively with clients due to reduced idealism and increased irritability (Miner). The interaction between personality traits and environmental context may be predictive of a staff member's involvement in patient-related incidents and possible victimization.

Since little of the research on incidents occurring in forensic settings has been conducted in Canada, the generalizability of findings to the Canadian context is limited. A further challenge in interpreting the results is the lack of a global definition of "incident" (Soliman & Hashim, 2001). Existing definitions include attacks on nursing staff or others, threatening behaviour, absconding, self-harm, and property damage (Armond, 1982; Bowers et al., 2003; Dietz & Rada, 1982; Fottrell, Bewley, & Squizzonni, 1978; Haller & Deluty, 1988; Owen et al., 1998). While it is clear that personality, stress, and burnout can be predictive of incidents, the exact relationships of these factors with interactions between nurses and patients, and the incidents that occur within these interactions, have not been thoroughly explored.

The purpose of this study was to examine the nature of the relationship between nursing staff and patients on a Canadian psychiatric forensic

unit. It was hypothesized that there would be variability in the number of incidents across teams given their unique composition. In terms of the personality characteristics of staff members, it was hypothesized that agreeableness would be negatively correlated and neuroticism positively correlated with incidents. It was also expected that low levels of work satisfaction and high levels of burnout would be correlated with incidents.

Method

Participants

We approached all full-time registered nurses ($N = 25$) working on a 20-bed minimum-security forensic unit in a medium-security psychiatric hospital that provides inpatient, outpatient, and community-based services to participate in the study. The staff was organized into four equivalent teams working together on a regular basis. A team was defined as a group of people communicating, sharing knowledge, and ultimately working towards a common goal (Cott, 1998). We also accessed the medical records of approximately 80 forensic psychiatric patients institutionalized currently or previously (within the 1-year retrospective period).

Measures

Staff personality. Personality characteristics were determined using the 60-item NEO Five-Factor Inventory (NEO-FFI). The NEO-FFI is a valid and highly reliable measure of neuroticism, extraversion, openness, agreeableness, and conscientiousness. Significant correlations between the NEO-FFI and the NEO-Personality Inventory, a more comprehensive measure of the same five factors, suggest strong convergent validity (Costa & McCrae, 1989).

Work satisfaction. Work satisfaction and employee burnout were measured using the 22-item Maslach Burnout Inventory-Human Services Survey (MBI-HSS). The MBI-HSS evaluates the manifestations of employee burnout within human services institutions and socially relevant health-care professions such as nursing and psychology. Items are evaluated using a six-point Likert-type scale resulting in overall scores on three subscales: emotional exhaustion, depersonalization, and personal accomplishment. Psychometric evaluations of the MBI-HSS show that the instrument possesses acceptable reliability and validity (Maslach & Jackson, 1986). The internal consistency of the three scales ranges between .71 and .90.

Work environment. Quality of the work environment was evaluated using the Work Environment Scale (WES), a 90-item true-or-false ques-

tionnaire. The WES measures social climate within work settings on 10 subscales: involvement, peer cohesion, supervisor support, autonomy, task orientation, work pressure, job clarity, control, innovation, and physical comfort (Moos, 1994). The subscales display internal consistency, with Cronbach's alpha ranging from .69 to .86.

Staff demographics. Demographic information on nursing staff was collected using the Human Services Demographic Data Sheet, a comprehensive demographic checklist that is a component of the MBI-HSS (Maslach & Jackson, 1986).

Incidents. The incidents were classified within the institution through a centralized process. Each incident was reported to the unit manager, who then categorized it according to hospital protocol into one of three types: non-violent, violent, or verbal. Non-violent incidents included non-aggressive actions such as failure to return from a leave of absence or violation of ward rules. Violent incidents included any outward expressions of physical aggression directed at an individual or property in order to intimidate. Verbal incidents included any non-physical expressions of aggression such as verbal threats. In addition, verbal and violent incidents were combined to form a unique category identified as aggressive incidents; this category represented all external forms of aggressive behaviour.

Incident data were constructed for each staff member by using attendance data to establish whether the person was present on the unit when an incident occurred. Since staff members who worked more days would have had increased exposure to incidents, the frequency of incidents for each staff member was divided by the number of days he or she worked during the year, the result being an exposure-controlled incident ratio.

Procedure

All aspects of the study were approved by the local ethics committee. Participants were independently administered the psychometric evaluation package, which included: (1) the NEO-Five-Factor Inventory, (2) the Maslach Burnout Inventory-Human Services Survey, (3) the Work Environment Scale, and (4) the Human Services Demographic Data Sheet. The participants signed a consent form and were informed of their right to not participate in any part of the study and to withdraw at any time. The questionnaire package required approximately 30 minutes of their time and was completed by participants at their leisure.

Administration records were abstracted to determine each staff member's rate of absenteeism over the period September 1999 to August 2000. In addition, a retrospective analysis of incident records was carried out in order to determine the type of incidents that occurred on the forensic unit over the same period. Demographic and diagnostic infor-

mation on the forensic inpatients involved were then determined, as well as the nursing staff and team members who were present when the incidents occurred.

Statistical Analysis

The incidents were categorized by patient diagnosis (according to DSM-IV criteria) into the following categories: mood disorders, schizophrenic/psychotic disorders, substance abuse disorders, personality disorders, deferred diagnosis, and other. Comparisons of incident rates by diagnosis and team were analyzed using chi-square goodness of fit tests. Associations between staff variables and the exposure-controlled incident variable were examined by means of Pearson correlations.

Results

Patient Incidents

During the retrospective period, 80 unique patients were hospitalized in the forensic unit. The population consisted primarily of individuals diagnosed with schizophrenia or a related psychotic disorder (32.5%, $n = 26$). Personality disorders accounted for 13.8% ($n = 11$), mood disorders for 11.3% ($n = 9$), substance abuse disorders for 10% ($n = 8$), deferred diagnoses for 8.8% ($n = 7$), and mental retardation for 5% ($n = 4$). Seven patients (8.8%) were categorized as "other." Eight individuals (10%) were undiagnosed. The ward used working diagnoses with inpatients; formal diagnoses were required upon discharge only.

Of the 80 patients, 24 (30%) were involved in one or more of the 52 recorded incidents. Of these 24 patients, 10 were involved in only one incident and 14 were multiple offenders, involved in 43 of the 52 incidents (81%). Eight patients, representing a mere 10% of the population, were responsible for 30 of the 52 incidents (57.7%).

The 24 patients (15 male, 9 female) who were involved in incidents ranged in age from 22 to 71 years ($M = 38.21$). The mean age of the men was 40.33 years ($SD = 14.55$) and of the women 34.66 years ($SD = 7.89$). The age difference for the males and females was not statistically significant: $F(1, 22) = 1.14, p = .297$.

Of the 52 incidents, 22 (42.3%) were categorized as non-violent and 30 (57.7%) as aggressive (verbal and violent).

The frequency of incidents varied according to diagnosis ($\chi^2(5) = 14.69, p = .012$). Patients with a diagnosis of schizophrenia or psychotic disorder were responsible for the greatest number of incidents (*observed* = 29, *expected* = 17.7). Those with a diagnosis of substance abuse disorder or with a deferred diagnosis were the perpetrators of fewer incidents than expected (*observed* = 1, *expected* = 5.4 and 4.8, respectively). The associa-

tion between a diagnosis of schizophrenia or psychotic disorder and frequency of incidents reflected the greater frequency of violent incidents among this diagnostic group (ϕ coefficient = .39, $p = .005$).

Team Incidents

Of primary interest in this study was the possible variation in frequency of specific incident types among the nursing teams within a forensic psychiatric ward. The frequency of non-violent incidents ranged from zero to nine per team. This difference was statistically significant ($\chi^2(3) = 8.91, p = .031$). However, no association was found between nursing teams and either violent incidents ($\chi^2(3) = 2.33, p = .506$) or verbal incidents ($\chi^2(3) = 1.43, p = .699$).

Staff Incidents

Of the 25 members of the forensic nursing staff who were approached to participate in the study, 13 (four men, five women, four unreported gender) completed and returned the questionnaire package. The mean age of participants was 39.77 years ($SD = 7.63$). The average number of years of departmental experience was 9.56 ($SD = 6.05$) and of organizational experience 10.49. Use of the exposure-controlled incident variable revealed a significant relationship between non-violent incidents and departmental experience ($r(10) = -.73, p = .017$). Staff members with higher levels of departmental experience had a lower frequency of non-violent incidents. A significant positive correlation was found between age and frequency of violent incidents ($r(10) = .74, p = .014$).

The only significant relationship between staff personality characteristics and incidents was that between “openness” and non-violent incidents ($r(10) = .73, p = .017$). No other relationships achieved statistical significance or a correlation ratio of .40 (see Table 1).

Table 1 *Correlations between NEO Factors and Frequency of Incidents*

		Non-violent Incidents (probability value)	Violent Incidents (probability value)	Verbal Incidents (probability value)
Neuroticism	<i>r</i>	-.32 (.330)	.07 (.845)	.23 (.488)
Extraversion	<i>r</i>	-.14 (.690)	-.17 (.622)	.10 (.770)
Openness	<i>r</i>	.72 (.013)	.19 (.582)	.22 (.523)
Conscientiousness	<i>r</i>	-.27 (.425)	-.27 (.415)	.33 (.328)
Agreeableness	<i>r</i>	-.21 (.537)	.18 (.600)	.39 (.235)

Incident variables as measured using the WES subscales revealed three correlations exceeding .50, two achieving statistical significance (see Table 2). Staff members who perceived themselves as having a higher level of clarity in their work environment were present during fewer verbally aggressive incidents ($r(10) = -.75, p = .013$). Those who perceived themselves as having more autonomy within their work environment were associated with a greater frequency of non-violent incidents ($r(10) = .67, p = .033$).

		Non-violent Incidents (probability value)	Violent Incidents (probability value)	Verbal Incidents (probability value)
Involvement	<i>r</i>	.24 (.499)	.17 (.636)	.26 (.469)
Peer cohesion	<i>r</i>	.34 (.341)	.26 (.461)	.15 (.680)
Supervisory support	<i>r</i>	.08 (.837)	-.34 (.335)	-.13 (.722)
Autonomy	<i>r</i>	.67 (.033)	.48 (.157)	.23 (.517)
Task orientation	<i>r</i>	-.12 (.733)	-.25 (.490)	-.02 (.947)
Work pressure	<i>r</i>	-.15 (.680)	.00 (.996)	.14 (.700)
Clarity	<i>r</i>	-.35 (.329)	-.54 (.111)	-.75 (.013)
Control	<i>r</i>	-.29 (.423)	.27 (.447)	.11 (.766)
Innovation	<i>r</i>	-.09 (.813)	-.35 (.323)	-.11 (.756)
Physical comfort	<i>r</i>	-.43 (.216)	-.15 (.689)	-.37 (.288)

No association was found between the burnout subscales and incidents (see Table 3).

		Non-violent Incidents (probability value)	Violent Incidents (probability value)	Verbal Incidents (probability value)
Emotional exhaustion	<i>r</i>	.43 (.214)	.29 (.414)	.47 (.175)
Depersonalization	<i>r</i>	.42 (.229)	.41 (.245)	.30 (.398)
Personal accomplishment	<i>r</i>	.01 (.977)	-.02 (.958)	.25 (.488)

Discussion

Patient-related incidents are a significant concern for managers of forensic psychiatric units. The purpose of this study was to explore the relationships between those incidents and characteristics of patients and nursing staff. We found that a small group of patients were responsible for the recorded incidents, a phenomenon that has been reported globally. Just 10% of the inpatient population was directly responsible for more than half of the documented incidents. Multiple offenders were involved in all but 19% of the incidents, a result that closely replicates those of previous studies with forensic psychiatric populations (Kennedy et al., 1995; Morrison et al., 2002).

However, while previous studies suggest that typical high-risk inpatients exhibit high frequencies of personality and substance abuse disorders more typical of the criminal offender population (Abeyasinghe & Jayasekera, 2003; Volavka et al., 1995), we found that schizophrenic and psychotic patients were responsible for the majority of violent incidents. The differences in the diagnosis-based incident ratio seen in this investigation may be explained by a number of possibly unique factors. For example, the study was conducted in a medium-security facility. Furthermore, the ward environment, including treatment methods, ward policies, and the general context of the forensic unit, may have differed from those of previous investigations. This suggests that the findings may not generalize well across types of institution or across jurisdictions. Perhaps future studies should focus on triggering factors of inpatient conflict to determine whether there are common factors that generate conflict in forensic settings. Researchers could then explore whether those factors are predominant within particular disorders. The paucity of Canadian studies in this area underscores the need for more research comparing incident data within and across institutional types and across provinces.

In examining nursing teams, we also found a difference in the frequency of non-violent incidents, which included such behaviours as violation of basic ward rules, failure to return as scheduled from authorized leaves, and violation of smoking prohibitions. This variation across nursing teams has several possible explanations. One is that team characteristics may have varied in some important aspects. However, it is unclear what such variations might have been and how they would affect incidents. A more likely explanation is that the variation in frequency is in fact a variation in the rate of reporting across teams. The reporting of non-violent incidents could entail a higher level of staff discretion than the reporting of violent incidents (for which we found no differences across teams). Furthermore, as with any finding close to the statistical

threshold of $p < .05$, we cannot rule out a Type I error as an explanation. Nonetheless, this finding illustrates the need for more work so that we can better understand the role of team dynamics in forensic settings. From a methodological perspective, this finding suggests that in future research we may need to approach “teams” as the unit of analysis, necessitating larger-scale studies.

The frequency of non-violent incidents also appeared to vary at the individual level. Nursing staff with extensive departmental experience were present during fewer non-violent incidents than their colleagues with less forensic experience. Previous studies have found that certain staff members are victimized by patients more often than others, which indicates that incidents may be non-random (Erdoes & Hughes, 2001; Poster, 1996). Bond and Brimblecombe (2003) found that a majority of forensic staff members (98 out of 102) believed that characteristics of individual staff members were related to whether or not they encountered violence at work. For example, it was suggested that some staff members may lack the skills required to handle difficult inpatients or may have racist attitudes. However, as with the analyses comparing teams, variability in the rate of reporting, rather than in the actual frequency of incidents, is a viable explanation. Future investigations may benefit from incident data that do not rely entirely on staff-based reporting methods.

Staff age was found to be positively related to the reporting of violent incidents. The reported rate of violent incidents was significantly higher among older staff members than among their younger counterparts. The expected low tolerance for violence on the unit suggests that the relationship between staff age and violence is unlikely to be a rate-of-reporting effect, though this may still exert some influence.

The staff member NEO openness factor was positively correlated with non-violent incidents. Such incidents were more frequent when staff members with increased openness were present. However, no relationship was found between staff openness and incidents defined as aggressive. One explanation for this finding is that staff members who are open are perceived by patients as easygoing and therefore likely to tolerate small misdemeanours.

Regarding the role of the work environment, staff with increased work clarity experienced a lower frequency of aggressive incidents (verbal and violent). However, staff with high levels of autonomy experienced greater frequency of aggressive incidents. An examination of supervisory support, policies, and management styles would be beneficial in identifying causal relationships between management philosophies and incidents.

The staff of mental health facilities should be attentive to high-risk patients as well as to factors that may trigger incidents among staff and

patients. In-service training to promote alternatives to restraint, effective communication skills, and non-violent methods for managing violent patients may serve to reduce the number of patient assaults (Flannery & Walker, 2001).

The results of this study support the presence of complex relationships between inpatient incidents and forensic nursing staff. The work environment may also be a relevant factor. While a number of relationships were observed, the hypothesized personality and burnout patterns were not found. However, the limited effect size of this investigation should be considered. Due to the small sample size, the limited response rate, and the potential heterogeneity of the participants, it is possible that some relevant findings would reach statistical significance in a larger study.

Future research should include multiple institutions and ward types in order to address issues of sample size and unit of analysis. Future replications of similar research should consider using a more objective measure of incidents; this would require the development of reliable procedures to code incidents. In addition, future research should consider replicating recent studies in various environments, possibly increasing generalizability and recognizing successful forensic practices.

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