Prevention of Aggressive Incidents on a Closed Psychiatric Ward

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Objective: This study examined whether staff members' use of interventions for preventing patients' aggression reduced the number of incidents of aggression on a closed acute admissions ward of a psychiatric hospital in the Netherlands. Methods: The number and severity of incidents of aggression on three closed wards were measured using the Dutch version of the Staff Observation Aggression Scale (SOAS). Measurements were made for three months before and after staff implemented interventions for preventing aggression on one of the wards. Interventions included a protocol for talking to patients who exhibited aggressive behavior, discussing treatment goals with the patient shortly after admission, explaining why the ward's door was locked and the exit rules, providing a schedule of staff meetings to explain staff members' absence from the ward, and clarifying the procedure for making an appointment with the psychiatrists. Results: The frequency of aggressive incidents was reduced on all three wards, with no significant difference between the ward where the interventions were implemented and the two control wards. A marginally significant difference in the severity of aggressive incidents was found between experimental and control wards after the introduction of the preventive measures, with incidents in the experimental ward tending to be less severe. Conclusions: This study failed to find a robust effect of specific intervention measures on aggressive incidents. However, it did find evidence suggesting that standardized reporting by staff of aggressive incidents on closed psychiatric wards may in itself result in straightforward reduction of violent incidents. (Psychiatric Services 48:694–698, 1997)

Aggression by inpatients in psychiatric settings threatens the safety of both staff members and patients. To avert danger resulting from a patient's violence, staff members are sometimes forced to seclude or restrain the patient, procedures that are associated with a high risk of staff injuries (1,2). In addition, the physical and psychological consequences of violence by patients have considerable financial implications (3). Some reports suggest that the number of aggressive incidents in psychiatric hospitals is increasing (4). Especially on acute closed psychiatric wards, high frequencies of aggressive incidents are reported (5–7).

The psychiatric literature includes numerous suggestions for aggression-reducing interventions. However, relatively little is known about the effects of these interventions on the frequency of aggressive incidents. Palmstierna and Wistedt (8) examined the effect of a reduction of the number of beds on the number of aggressive incidents per patient. They found that this intervention did not affect the frequency of incidents, although the nature of the incidents changed. Violence between patients increased, whereas aggression toward staff members decreased. The aggressive incidents in that study were monitored by means of the Staff Observation Aggression Scale (SOAS) (9). Interestingly, Nilsson and colleagues (10) found that monitoring aggression with the SOAS in itself can lead to a reduction of incidents.

Using a therapeutic management protocol, Kalogiera and associates (11) obtained a 64 percent reduction in seclusions and restraints on three wards. Their protocol gives detailed suggestions about how staff members should react to patients' disruptive behavior at an early stage. Physical assaults are, indeed, often preceded by prolonged periods of tension building. Rice and colleagues (2) stated that "violence rarely erupts without warning" and that patients generally go from a calm state to an anxious state to a hostile state. Similarly, McNiel and Binder (12,13) found that the staff of closed psychiatric wards are able to give a valid one-week estimate of the risk of violence by patients. Also, threatening behavior before admission has been
linked to later episodes of seclusion and violence (14).

Recently, Hunter and Love (15) reported a 40 percent reduction of incidents in dining rooms of a state forensic psychiatric hospital associated with use of the principles of total quality management (TQM). The reduction was obtained by implementing five interventions that were selected by a ten-member multidisciplinary team using the TQM FADE method (focus, analyze, develop, and execute).

One obvious limitation of the intervention studies described above (8,11,15) is that they failed to include control conditions. Consequently, the possibility remains that in these studies, changes in aggressive incidents or in the number of seclusions and restraints were caused by factors not related to the interventions. Perhaps staff members, knowing that a study is going on, become less likely to report violence.

Several studies with a quasi-experimental design have been conducted to assess the effects of preventive measures on aggressive incidents. For example, effects of training staff members how to manage aggression have been studied in this way. Infantino and Musingo (16) found that trained staff members were less often assaulted than untrained staff members. Phillips and Rudestam (17) reported similar findings in a small sample of staff members. Carmel and Hunter (18) did not find an association between staff training and the frequency of aggressive incidents. However, the severity of aggression (as measured by the number of staff injuries) was found to be less on wards where the staff had a strong commitment to aggression management training.

The study reported here explored the effects of several interventions on the incidence of aggression on an acute psychiatric admissions ward. The study was based on previous work on the incidence of aggressive incidents (5). The interventions aimed at improving the communication between patients and staff members about treatment goals and strategies.

That communication problems between staff and patient can play an important role in initiating aggression is clearly documented in a recent study by Whittington and Wykes (19). They found that a large majority of aggressive incidents (86 percent) were preceded by interactions between staff members and patients. Similarly, Shah and associates (4) argued that several factors among staff, including authoritarian attitudes, too little communication, lack of competence, and limited working experience, can contribute to aggression. Blair (20) pointed out that lack of consistency in setting limits and the existence of denying, authoritaria, and inflexible attitudes among staff members may elicit aggression. In summary, then, there are good reasons to expect that training staff members about how to cope with the problematic behavior of patients and improving the way in which ward rules and treatment strategies are communicated to the patient might reduce aggressive behavior.

Methods

Assessment

The study started on November 7, 1994. In three closed wards, each containing 20 beds, preintervention aggression was measured for a baseline period of three months (92 days). Staff members used the Dutch version of the SOAS to record aggressive behavior. Aggressive behavior directed by a patient against himself or herself was also monitored. The SOAS consists of five separate columns for coding information about aggressive incidents: the provocation that led to the aggressive event, the means used by the patient during the aggressive event, the target of the aggression, the consequences for victims, and the measures taken to stop the aggression (9). Severity scores are given for the three central columns, and the sum reflects the severity of an incident. The maximum score is 12.

After the baseline period, a multidisciplinary team selected and created protocols for interventions aimed at reducing aggressive behavior. This process took place in ten consensus meetings. The multidisciplinary team consisted of the psychiatrist and assistant psychiatrist from the experimental ward, the head psychiatric nurse, three psychiatric nurses, a researcher, and the quality coordinator of the hospital. In two further sessions, the interventions were introduced and explained to the entire staff of the experimental ward.

The experimental ward was a closed psychiatric admissions ward. The two remaining wards served as control conditions; one was a closed admissions ward, and the other was a closed ward for further treatment. After the implementation of the interventions on June 28, 1995, staff members used the SOAS to record aggressive behavior for another period of 92 days, the postintervention period. The average length of stay on the three wards during the study period was 37.3 days.

Interventions

Five interventions were used: verbal interventions, discussing treatment goals with patients soon after admission, providing information about the ward's locked door, providing a schedule of staff meetings, and clarifying how to make an appointment with the psychiatrist or the assistant psychiatrist.

Verbal interventions. The procedure for verbal interventions was based on the therapeutic management protocol of Kalogiera and associates (11). When a patient showed disruptive behavior, the staff member's first step was to approach the patient and identify for him or her exactly what constituted the threatening or aggressive behavior. Next, the consequences of the behavior were explained to the patient. Emotions caused by the disruptive behavior, such as fear, anxiety, or worry among staff members or fellow patients, were also communicated to the patient.

The patient was then informed that he or she had to regain control and stop the threatening or aggressive behavior. Finally, the staff member announced the measures that would have to be taken if the patient did not regain control. Each of these verbal interventions was directed at initiating communication with the patient about aggression at an early stage.
Any attempts by the patient to change the disruptive behavior were positively reinforced by staff members.

If these verbal interventions had no effect, staff members evaluated the incident together with the patient later, after he or she had calmed down, but within 24 hours after the incident. A standard evaluation form consisting of three parts was used. First, staff described the incident and the results of the patient’s aggressive behavior. The patient was also informed why certain restricting measures had been taken. Second, and in contrast to the protocol of Kalogieris and associates (11), the patient was asked for his or her view of what had taken place. This step was taken because a previous study of aggression found that in 43 percent of aggressive incidents, staff members did not understand what provoked the aggression (5). In the third and last part of the evaluation, preventive strategies were discussed with the patient and written on the evaluation form.

Discussing treatment goals and strategies with the patient. This discussion took place within 24 hours after admission. In addition, during the session ward rules were explained to the patient by the psychiatrist or the assistant psychiatrist and written down on a treatment planning form. The form was signed by both the psychiatrist or the assistant psychiatrist and the patient. Immediately after the form was signed, copies were handed out to the patient and to the nursing staff, and one copy was filed in the medical file. In this way, all parties were given consistent information about limit setting and treatment goals and strategies.

Providing detailed information about the locked door of the ward. In an earlier study, we found that nearly 15 percent of aggressive incidents occurred near this door (5). It is plausible to assume that patients do not always understand why and when the ward door is locked. To clarify this matter, cards with the ward exit rules on them were printed. Shortly after admission, patients were given a card and verbal instructions about the exit rules. Furthermore, a sign explaining the purpose of the locked door and describing the exit rules was attached to the ward door.

Providing a schedule of staff meetings. In a previous study (5) we found that aggression often occurred just before and during certain staff meetings. For patients with a low frustration tolerance, apparently the absence of staff members on the ward and a lack of understanding about the reasons for their absence may cause problems. Therefore, a sign announcing the purpose of every staff meeting was attached to the door of the nurses’ office each time a meeting was held. The entire weekly schedule of meetings was explained on another sign on the ward. Staff members were instructed to avoid allowing meetings to last beyond their scheduled time.

Clarifying the procedure for making appointments with the psychiatrist or assistant psychiatrist. A schedule of the office hours of the psychiatrist and assistant psychiatrist was posted in the staff office. When a patient wished to make an appointment, a staff member wrote the appointment on the schedule in the presence of the patient.

We explored the extent to which the five interventions led to a reduction of aggressive incidents on the experimental ward compared with the control wards. In addition, we investigated whether control and experimental wards differed in the average severity of the aggressive incidents. Finally, to rule out alternative interpretations of reductions in aggressive behavior, we evaluated whether differences between the wards in the number and severity of aggressive incidents could be related to the number and length of admissions on the wards during the pre- and postintervention periods.

Results

Figure 1 shows the frequencies of aggressive incidents during the pre- and postintervention periods. The overall reduction in aggressive incidents across all three wards from pre- to postintervention was 51.9 percent, a significant reduction ($\chi^2=28.4$, $df=1$, $p<.01$). For the experimental ward, the total number of aggressive incidents was reduced from 67 before the intervention period to 25 after, a reduction of 62.7 percent. The two control wards had an average reduction of 43.8 percent in the number of aggressive incidents. The difference in reduction of aggression between the experimental and control wards was not significant.

Figure 2 shows the frequencies of incidents involving physical aggression for the three wards. Incidents involving only verbal aggression were not included in the analysis. Again, for all three wards combined,
the total number of incidents involving physical aggression showed a significant reduction from the pre- to the postintervention period ($\chi^2 = 5.83, df=1, p<.05$). On the experimental ward, the number of incidents of physical aggression was reduced from 30 to 14, or by 53.3 percent. For the two control wards, the number of incidents was reduced from 41 to 31, or by 24.4 percent. The reduction on the experimental ward did not significantly differ from that on the two control wards.

The mean severity score of the incidents was calculated using the scoring system proposed by Palmstierna and Wistedt (9), in which scores range up to 12, with higher scores indicating more severe aggression. Because auto-aggressive incidents were not included in the original version of the SOAS, they were excluded from our analysis. Accordingly, 30 of 231 incidents, or 13 percent, were excluded from the analysis. For the experimental ward, the mean severity score decreased from 4.51 before the interventions were implemented to 4.05 after, while the mean severity score for the control wards increased from 4.20 to 4.55. This difference between the experimental and control wards was marginally significant ($F=3.83, df=1, 194, p=.052$).

The overall reduction of the number of aggressive incidents in the three wards occurred despite an increase in the occupancy rates. The number of admission days (number of admissions × length of the admissions) in the three wards increased from 5,281 in the preintervention period to 5,671 in the postintervention period, a significant difference ($\chi^2 = 13.99, df=1, p<.01$). No difference in admission days was found between the experimental ward and control wards during pre- and postintervention periods.

**Discussion**

We found that the overall frequency of aggressive incidents in the three wards decreased during the period after interventions aimed at preventing such incidents were implemented. As in the study by Nilsson and colleagues (10), it appeared that systematic monitoring of aggression with the SOAS contributed to a reduction in aggressive incidents. Nilsson and colleagues speculated that “this reduction phenomenon is caused by a learning process from the ordinary nursing staff, who during a study of this kind are forced to systematize their observation of their patients.” It is possible, then, that the SOAS makes staff members more sensitive to risk factors that elicit aggressive behavior. If that is true, monitoring violence with an instrument such as the SOAS can be considered an aggression-reducing intervention.

The changes in occupancy rates of the wards offered no explanation for the overall reduction in aggression. Still, in this type of quasi-experimental study, factors other than SOAS measurements may have contributed to the reduction of incidents. For example, staff members were aware that their wards were the object of research. Consequently, expectancy effects might have played a role in the reduction of aggressive incidents—especially verbal aggression, whose measurement may be influenced by more subjective factors. However, the overall reduction was also found if incidents involving only physical aggression were included in the analysis. Still, a tendency of the staff to report fewer incidents during the study might have changed the criteria for completing the SOAS and resulted in fewer reports rather than an actual decrease of violence.

No significant differences were found between the control wards and the experimental ward in reduction of incidents as a result of the interventions, although the experimental ward showed the largest percentage reduction in both verbal and physical incidents. Given the serious threat aggression poses to the safety of both patients and staff members, any reduction of the number of violent incidents may be regarded as clinically relevant. Our failure to obtain a significant effect of the interventions on the number of incidents could be related to the overall reduction in incidents. This reduction may have masked an experimental effect. Furthermore, the interventions and the changes in attitude and behavior they require from staff members may have needed more than three months to become effective.

A marginally significant reduction ($p=.052$) occurred in the average severity of the aggressive incidents on the experimental ward. This reduction may have occurred because staff members were alert to early signs of violent escalations and used more timely verbal interventions, as described in the therapeutic management protocol of Kalogier and associates (11). Although in some instances staff members had difficulty using the verbal steps because direct
physical action was required to avoid dangerous situations, the protocol did seem to help staff members be more aware of early signs of aggression.

In addition, the ward team considered the evaluative part of the protocol to be useful. Because most patients on the experimental ward were aware of what had happened before and during the aggressive incidents, the nurses were able to find out more about patients' reasons for becoming aggressive and to talk with them about behavioral alternatives. They also found that discussing with the patient the anxieties, delusions, and distorted perceptions underlying the disruptive behavior was helpful in reducing negative countertransference reactions.

Conclusions
Although interventions aimed at preventing aggressive incidents on the locked inpatient psychiatric ward we studied did not result in a significant reduction of the number of aggressive episodes, the results show that staff members' staying alert before and during aggressive incidents is the first and perhaps the most important step in reducing violent behavior. Therefore, standardized reporting of aggression on closed psychiatric wards seems useful and may result in a reduction of incidents.

References