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Elevating Patient/Staff Safety in State Psychiatric Hospitals

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ARTICLE SUMMARY

Violence in the healthcare setting is a predominant issue. The purpose of this literature review is to assess what violence reduction measures should be implemented in state psychiatric hospitals to ensure the safety of their patients and staff members. Based on the information collected, recommendations are made on the types of measures that should be implemented in state psychiatric hospitals to increase patients/staff safety, foster a therapeutic environment and increase employee satisfaction.

Violence in healthcare settings[a] is a major issue in many countries, including the United States. Within the United States violence within the mental health care system is a predominant issue.[1] Compared to the patients who they serve, other healthcare workers, and individuals working in high-risk industry occupations (e.g. construction), mental health care workers have a higher likelihood of being injured in the workplace.[1,2] The purpose of this literature review is to assess what measures are most appropriate for elevating safety in state psychiatric hospitals for both patients and staff members.

Aggression/Violence in State Psychiatric Hospitals

Definition

Multiple forms of aggression can be expressed by patients in state psychiatric hospitals. The most commonly expressed form of aggression is verbal aggression.[3,4] This type of aggression is not always reported. Incidents involving verbal aggression tend to be under reported since nurses believe that experiencing verbal aggression from patients is part of their job description and is not an event that is worth reporting to their supervisors.[3,5] A more serious form of violence is physical violence. This involves the use of either a body part (e.g. hand, foot) or a weapon (e.g. knife, sharpened toothbrush, etc) to inflict harm on a subject.[6,3,7] Aggressive or violent acts do not strictly occur between patients. A patient can also act in a violent or aggressive manner towards staff members, themselves (e.g. trying to harm themselves with items that they find in the ward/unit of the hospital), or objects (e.g. breaking a window or destroying furniture).[3-5] In some instances, a patient's violent or aggressive act may have multiple victims (e.g. a staff member and a patient).[6,7] Overall, research suggests that a small proportion of aggressive/violent patients are responsible for a large proportion of violent/aggressive acts that occur within state psychiatric hospitals.[6]

Risk of Aggression

Data from the National Epidemiologic Survey indicates that individuals with mental illness in the general population that have experienced trauma (past abuse, recent victimiza-

a In this paper the term refers to violence toward both staff and patients.

tion), have parents with a criminal record, were detained as juveniles, perceive threats, recently unemployed, recently victimized, and that had a co-occurring mental health and substance use disorder are more likely to be at risk for violence.[8] This information, while informative, only looked at civilians living in the United States. The data did not contain information on hospitals.

Studies examining what factors increase the likelihood of violence in state psychiatric hospitals is important since the patients who these facilities serve are unique. Since the 1970s the composition of state psychiatric hospitals has changed. More patients are now being treated in the community and/or private psychiatric hospitals.[9] This change has resulted in state psychiatric hospitals treating a higher number of patients with more serious mental health issues and/or patients who are perceived to be danger to the community. Specifically, there has been a rise in the number of forensic patients[b] that have been admitted to state psychiatric hospitals for pre-trial evaluation[c] or to receive treatment services.[10,11,7]

This begs the question: Are forensic patients more likely to be violent than non-forensic patients?[d] Previous research has found that forensic patients are less likely to be violent than non-forensic patients.[6-7] Instead, the variables that are associated with an increase in violent/aggressive behavior in inpatients include: younger age; male; lower levels of functioning; lower level of education; Axis I disorder of schizoaffective disorder; Axis II disorder of borderline personality disorder, antisocial personality disorder, or intellectual disabilities; high number of previous psychiatric hospitalizations; past experiences of abuse; past involvement with the criminal justice system; unemployment; co-morbid mental health and substance use disorders.[6,7,12]

Aggressive/Violent Events

Incidents that were at risk for the patient becoming physically violent normally involved the patient being denied in some way.[5] For instance, the patient may have been denied being able to leave the ward/unit that they were in.[5] Research shows that, in most instances, nurses try to de-escalate the situation using methods that are less restrictive (e.g. talking to the patient, allowing the patient to leave the scene to calm down, taking the patient away from the scene in a calm manner) to the patient.[3,5] Sometimes other methods must be used to control a patient. Forceful methods (e.g. forced medication, seclusion, restraints) are still used when they are perceived to be necessary.[3,5] The method that is used to control a patient during a violent incident varies based on who their victim is (e.g. staff member, other patient, self). If a patient is trying to harm himself/herself than they may be put under close observation or transferred to another unit.[3] When it comes to patient-patient and patient-staff interactions, a study by Foster, Bowers, and Nijman (2007) indicated that more forceful measures (particularly seclusion and restraint) were used when the victim was a staff member compared to when the victim was another patient.[3] For incidents between patients, it was more common for the aggressor to be spoken too and/or removed from the incident in a calm manner.[3]

Costs of Aggressive/Violent Events

It is important to know what variables are associated with violence/aggression in patients since these individuals tend to remain at the state psychiatric hospitals for long periods of time.[5-6] The presence of violence/aggression in state psychiatric hospitals can influence the dynamic of the units/wards.[5] Incidents involving violent/aggressive patients can also be monetarily costly state psychiatric hospitals.[1,5]

Impact on Individuals involved in Incident

Violence against an individual can have a long-lasting effect, even if the victim is not physically hurt during the incident.[3,13] In many instances a victim may not be injured but they do feel threatened.[3,5] Even though the victim was not seriously hurt, it can still impact how they function. Individuals (both staff members and patients) involved in a violent incident may have experienced traumatic experiences in the past. Being victimized could lead to them being re-traumatized.[1,14] However, the aggressor is also at risk for re-traumatization.[14-15] Individuals who have severe mental illness that have experienced trauma in the past (physical abuse, recent victimization) have a higher risk of becoming violent than individuals with severe mental illness that do not have a history of trauma.[8] This means that the use of forceful methods to control a violent/aggressive patient could lead

b Forensic patients refer to patients who have been admitted to the state hospital to be evaluated and/or receive treatment services. These patients include, but are not limited to: Pre-trial evaluations, incompetent to stand trial (also referred to as incompetent to proceed or unfit to stand trial), not guilty by reason of insanity, guilty but mentally ill, patients transferred from jails, patients transferred from prisons, and civilly committed sex offenders.

c Pre-trial evaluations involve the court ordering a defendant who is on trial to be assessed by a mental health professional. The court may order this if a defendant's ability to understand or participate in the court proceedings is questioned (competency evaluation) or If it is believed that the defendant may not be guilty because of his/her mental state during the commission of the crime (not guilty by reason of insanity evaluation).

d Patients who were admitted to the hospital (voluntarily or involuntarily) were not admitted/transferred to the hospital by the criminal justice system (e.g. court referral for treatment or transfer from prison to hospital to receive treatment services).

to the patient being re-traumatized.[1,2,14-16] The use of forceful methods on a patient, regardless of whether or not it was known if the aggressor had a history of trauma, have been shown to affect the mental state of the aggressor and delay his/her recovery.[1]

This puts nurses in an ethical dilemma. Nurses are expected to provide care that is therapeutic to patients while also maintaining a safe environment.[17,18] Studies on violence in the healthcare field have demonstrated that violence in the workplace can lead to nurses feeling increasingly stressed and decrease their productivity.[5,13] In some instances, the intensity of a violent event can even lead to nurses developing post-traumatic stress disorder (PTSD).[3,17] Mental health nurses that have engaged in focus groups have noted that violent incidents impact their workload. Nurses working in facilities that allow seclusion and restraint procedures to be used to control very aggressive/violent patients have to dedicate a significant amount of time to this procedure. This complicates their ability to provide care to other patients because they are busy trying to restrain the aggressive patient or keeping an eye on the aggressive patient once he/she has been placed in a secluded setting.[5] Stress is only one of the emotions that nurses experience when they work in an environment that is unsafe. Lantta, Anttila, Konito, Adams, and Välimäki (2016) study indicates that mental health nurses experience a variety of emotions during and after a violent event. These emotions can influence the quality of care that they provide along with their well-being (at work and at home).[5] Mental health nurses have a difficult job. Many of the stressors on the job are not reported because the nurses believe that these stressors are part of the job description. For instances, in focus groups mental health nurses have expressed that they do not always report incidents of verbal aggression because they believe that verbal aggression from patients is part of their job.[3,5] Other nurses have noted that they do not even recognize when patients are being verbally aggressive because these incidents are part of their daily experiences.[3,5] The stress that nurses can dramatically impact the hospital. Nurses may use sick time, or leave the facility when the stress becomes too much for them.[1,5] This means that new nurses need to be hired to fill in the gaps. Unfortunately, these new hires may not have the necessary skills and/or training required to do their job effectively.[18] This can lead to more problems (e.g. more experienced nurses having to take time to help the new hires or patients not being given the proper care).[18]

Financial Burden

Hiring new nurses, training new hires, and the amount of money that is spent on paying for sick leave can be costly to a state psychiatric hospitals.[1,5] The financial burden is compounded if anyone is injured. An injury (to the victim or aggressor) can result in the state psychiatric hospital having to pay for the injured party's medical expenses. The hospital may also have to pay legal expenses if the injured party decides to pursue the matter in court. [1,5]

Seclusion and Restraint

Violence within the workplace can place pressure on state psychiatric hospitals and their workers to reduce violence. In some instances this can lead to facilities endorsing the use of seclusion and restraint procedures to control aggressive patients.[1]

Use of Seclusion and Restraint Procedures

Seclusion and restraint procedures are not always used when needed. Studies have shown that poor definitions surrounding the terms "violent", "aggressive", and "unsafe".[1] Poor definitions can result in confusion amongst staff members as to when it is appropriate to use seclusion and restraint practices.[1]

The use of seclusion and restraint practices may also be precipitated by preconceived notions in the wards/units.[1,18] For instance, violence within wards/units can reinforce notions that patients are dangerous, especially when the incidents involve assaults against staff members or when a staff member is injured while trying to stop a patient from assaulting another patient. Experiencing events like that could lead to staff members perceiving patients as dangerous and seeing seclusion and restraint procedures as the only options available to them.[1,5,16] In turn, restraining and secluding patients may lead to them becoming more aggressive.[1-2] In essence, using seclusion and restraint practices creates a perpetual cycle: Staff members perceive their patients to be aggressive and/or violent; Patients feel unsupported or demeaned; Patients become aggressive; Staff members use seclusion and restraint practices to control patients because they believe that no other options are available to them to handle these "dangerous" patients. The cycle fuels the perception that patients are violent for staff members and that staff members do not care about their patients for the patients.[1,2,5,16]

Violence in these settings increases turnover rates, workforce costs (e.g. sick leave, training), medical costs for injured parties, and increases the likelihood that other financial expenses will be incurred. If a staff member is injured trying to use seclusion and/or restraint to control a patient, the staff members may file a workers compensation claim. Paying for workers compensation is expensive. The hospital has to pay for the worker's medical expenses, leave, and (in some instances) any lawsuits that the employee filed against them.[1] This financial burden is compounded by the fact that each workers compensation claim increases the hospital's modification factor.[1] The modification factor is used by insurance companies to determine how risky the hospital is. For the hospital, this means that its liability premium will rise as the number of workers compensation claims increases.[1] Lastly, hospitals that use seclusion and restraint practices may face legal consequences if someone is injured (primarily a patient). These consequences may be in the form of monetary requirements (civil damages costs), sanctions (e.g. losing certifications), or legal charges.[1]

Methods for Reducing Violence

Even though forensic patients may be in trouble with the law, they are not at a higher risk for committing violent/aggressive acts at state psychiatric hospitals.[6,7] Comparatively speaking, non-forensic patients are more likely to be violent than forensic patients.[6,7] Once legal (forensic or non-forensic) status is removed from the equation, the variables associated with aggression in forensic and non-forensic patients are very similar.[6,7,12] This means that, for the most part, state psychiatric hospitals can use the same methods for reducing violence for both forensic and non-forensic patients.[6,7]

Reducing Rates of Seclusion and Restraint

Research conducted by the Substance Abuse and Mental Health Services Administration (SAMHSA) and the National Association of State Mental Health Program Directors (NASMHPD) indicate that seclusion and restraint policies are not effective.[2] The use of seclusion and restraint procedures, as stated above, can actually fuel violence.[1,2,5,16] In order to reduce the use of these procedures, and violence within state psychiatric hospitals, changes need to be made to state psychiatric hospital's leadership, policies, and programs.[2] NASMHPD developed six core strategies that, when implemented, will reduce violence. These six strategies are: 1.) Leadership movement toward organizational change; 2.) Using data to inform hospital practices; 3.) Developing the workforce to create a treatment environment; 4.) Use of tools (e.g. risk assessment tools) to prevent the use of seclusion and restraint practices and lead to the development of individualized plans; 5.) Giving consumers roles within all levels of the organization in order to allow them to provide their insights; 6.) Performing a debriefing after every seclusion and restraint event.[19]

SAMHSA found that facilities that implemented evidence based practices, specifically NASMHPD's six core strategies, reduced their rates of seclusion and restraints.[20] The reduction rates varied for each state[e], however states that fully implemented evidence-based practices saw major decreases in their seclusion and restraint rates.[1,20] This was especially true for states that implemented NASMHPD's six core strategies. The effectiveness of NASMHPD's six core strategies has also been confirmed by other research studies that have been conducted both in and outside of the United States.[17]

Pennsylvania: Statewide Implementation of NASMHPD's Six Core Strategies

Pennsylvania implemented NASMHPD's six core strategies statewide. Between 2001 and 2010 data was collected from every state psychiatric hospital in Pennsylvania. Analyses were run to see how the implementation of these strategie-impacted the use of seclusion and restrain practices. [4,21]

Civil Patients

Pennsylvania has nine state psychiatric hospitals that serve civilian patients. In each hospital the following methods were implemented:

1) *Leadership movement towards change*

Leaders in the state psychiatric hospitals developed methods to standardize how high risk cases were managed. Data on clinicians and hospital procedures were collected to determine when seclusion and restraint methods were being utilized. Hospital leaders used this information to modify treatment plans (if needed), train staff members on when to use seclusion and restraint procedures, and as a measure of performance.[4]

Outside of the hospital, changes in Pennsylvania's state policies enabled there to be organizational change in state psychiatric hospitals. In 2001, Pennsylvania's seclusion and restraint policy was modified to reduce the maximum time that a patient could be placed under seclusion or mechanical restraints. The time was reduced to one hour. If the patient was still aggressive/violent after the end of this first hour, the procedure could only be extended for increments

e The unique characteristics of each facility/program implementing these evidence-based practices, the individuals served by these facilities/programs, and the degree to which the evidence-based programs were implemented (e.g. partially, fully) influenced the seclusion and restraint rates for each state.

of an hour.[4] Furthermore, this policy mandated that the patient be assessed by a physician within thirty minutes of the seclusion and/or mechanical restraint procedure being ordered.[4] Pennsylvania's physical restraint policy was not updated until 2005. The duration of time that a physical restraint procedure could occur was reduced to ten minutes. The policy required that the patient be released as soon as he/she was under control or as soon as the ten minutes expired. Patients could only be re-retrained if the individual could still not be controlled. Another stipulation of this policy was that staff members were banned from using floor control restraint procedures. Lastly, the policy modified the seclusion and mechanical restraint procedure requirements to limit the extended use of these procedures from one hour intervals to 30 minute intervals.[4] The final step that Pennsylvania took to reduce seclusion and restraint within its state psychiatric hospitals was that staff training procedures were modified statewide. In 2009 it was mandated that training for seclusion and restraint procedures within all of Pennsylvania's state psychiatric hospitals be provided by a single company.[4] In essence, this step ensured that the training would be standardized across all of Pennsylvania's state psychiatric hospitals.

2) *Modification/Revision of state policies*

Having accurate and reliable data is important. In order to make sure that the data for Pennsylvania's state psychiatric hospitals was accurate and reliable, it was shared monthly. Individuals within the hospital system, as well as worldwide, were allowed to see summary reports on a variety of hospital measures (including use of seclusion and restraint practices). This process allowed interested individuals to provide information that could help the state psychiatric hospitals modify their practices.[4]

Another step that the state psychiatric hospitals took to reduce their use of seclusion and restraint procedures were that they began to use the date from clinical reports to determine how often containment[f] procedures were being used. Alerts were created to inform hospital leaders, as well as clinical teams associated with the incident, about the incident/event that was flagged. This procedure was first applied to unscheduled medication use in 2005. Clinical reports were tracked and alerts were created to inform leaders if clinicians were giving patients unscheduled medication in high dosages.[4] Alerts were created in 2006 to identify patients who were being repeatedly restrained or who were repeatedly involved in assaults.[4]

3) *Developing the workforce and creating a therapeutic treatment environment*

It is important to have an environment that provides therapeutic treatment and is safe. In order to develop a workforce that could provide therapeutic treatment in a safe environment, Pennsylvania's state psychiatric hospitals developed a plan for handling crisis events. In 2001, once the plan was developed staff members were trained on what to do if they were first responders to a crisis event. Yearly refresher trainings are provided to make sure that staff members stay appraised of violence reduction practices.[4]

After the successful implementation of a Psychiatric-Emergency Response Team (PERT) in Allentown, Pennsylvania's other state psychiatric hospitals began developing their own response teams. Response teams are composed of a diverse group of experienced staff members who have volunteered to take on the additional role of helping provide direction and support during a crisis event.[4]

Finally, training programs were developed over the course of 2001 to 2008 to train staff members about therapeutic practices and to refine their crisis response skills. In 2004 a committee was created to evaluate staff training. The committee's goal was to focus on ensuring that safe and therapeutic responses to crisis situations. In order to ensure that training was standardized across state psychiatric hospitals, the hospitals switched to a single provider for staff training in 2009. When this change occurred, new staff were required to attend two days of training with the new provider, current staff members were required to attend yearly training, and direct care staff were required to provide updates every three months regarding responses to crisis events.[4]

4) *Other implementations*

The steps listed above were not the only methods that Pennsylvania's state psychiatric hospitals used to help reduce their use of seclusion and restraint. Other methods that were utilized include: discontinuing the use of pro re nata medications[g], introducing dialectical behavior therapy within all of the hospitals to treat patients diagnosed with borderline personality disorders, creating a list of patients who have conditions (e.g. medical issues, history of trauma)

f Containment procedures are methods used to contain a patient. These procedures include: seclusion, mechanical restraint, physical restraint, and medical restraint.

g Pro re nata (PRN) medications are given to patients as needed. In essence, this unscheduled use of medication can be implemented by staff in order to medically subdue a patient.

that require them to not be restrained, holding a debriefing after an event has occurred, as well as the "development of comfort rooms; and the use of peer-to-peer specialists, psychiatric advance directives, and Wellness Recovery Action Plans".[4,21]

Results

The implementation of these strategies resulted in a significant decrease in the use of physical restraints, mechanical restraints, and seclusions. In total, the rates for these procedures decreased by 1.03 events (from 2.65 to 1.63) per 1,000 days between 2002 and 2010.[4] There were also dramatic decreases in the use of medication pro re nata (PRN) orders between 2004 and its discontinuation in 2005. The use of PRN orders decreased from 87.7 orders per 1,000 days to 7.7 orders per 1,000 days between 2004 and 2005.[4] Data from the study suggests that once the use of PRN orders was discontinued in 2005, seclusion and restraint became even less frequent.[4]

Forensic Patients

The implementation of these new strategies not only led to the reduction of seclusion and restraint episodes among hospitals treating non-forensic patients, but also among hospitals treating forensic patients. Some additional strategies were implemented for forensic patients. The following strategies were useful for forensic patients: implementing a debriefing after the use of seclusion or restraint, increasing supervisions for patients being secluded or restrained, and changing medications.[21]

1) *Debriefing*

In Pennsylvania's state psychiatric hospitals, 46% of the seclusion or restraint events resulted in the forensic patient's treatment plan being modified. The changes to the treatment plans mandated that a containment debriefing be held after a seclusion and/or restraint event.[21]

2) *Increased Supervision*

In 22% of the events where a forensic patient was secluded, 9% of the events where a forensic patient was physically restrained and 17% of the events where a forensic patient was mechanically restrained, an order was given to increase the supervision of the forensic patient.[21]

3) *Medication Changes*

Lastly, in 19% of the seclusion or restraint events a change was made to the forensic patient's the medication.[21] The study does not specify how the medication was changed. It is possible that their medications were changed in order to place them on a medication that was better suited to reduce their level of aggression. A study by Fond et al (2016) found that taking second generation antipsychotics was related to lower aggression levels in patients, while taking benzodiazepines were linked to higher levels of aggression.[12] There were some methodological issues with this study[22], however, other studies have suggested that different types of medications can have different effects on a patient's aggressiveness.[23] A double-blind study that examined the use of antipsychotics in treatment-resistant schizophrenic patients suggests that the type of medication that is most appropriate can vary based on the patient's level of aggression and his/her disorder. For instance, the researchers found that risperidone and olanzapine were not as effective in treating a patient's symptoms if the patient exhibited persistent aggressive behaviors. These medications were only effective for patients with lower levels of aggression. Treatment-resistant patients with higher aggression levels of aggression were more responsive to clozapine when adequate (based on their individual needs) dosages were provided.[23]

Results

Data from Pennsylvania's forensic state psychiatric hospitals suggests that these procedures led to significant reductions in the use of mechanical restraints (1.7 events per 1,000 days in 2001 to 0.04 per 1,000 in 2010) and physical restraints (4.28 events per 1,000 days in 2003 to 3.09 per 1,000 in 2010). While the number of seclusions did not decrease, the length of time that a patient was placed in seclusion was significantly reduced (69 minutes per indecent in 2004 to 32 minutes in 2010).[21] Furthermore, these hospitals saw a reduction in their use of prn medications. In 2004 there were 112.5 events of unscheduled medication amongst forensic patients per 1,000 days. This number was reduced by almost 100 events by 2005 (18.6 events per 1,000 days).[21]

North Carolina: Strategies to Reducing Seclusion and Restraint

A state psychiatric hospital in North Carolina implemented several strategies to reduce the use of mechanical restraints by its hospital staff. Data was collected between September 2009 and July 2012 for the state psychiatric hospital's acute adult unit and community transition unit.[24]

1) *Training*

One of the first steps that the state psychiatric hospital took was to train all of its staff members in de-escalation techniques. Staff members were trained using the Crisis Prevention Institute's Nonviolent Crisis Training Program (For more information on this training please see the Nonviolent Crisis Intervention Training section). Staff members were trained about what to do in crisis situations, how to avoid these situations (if possible), and were shown how to implement de-escalation techniques. Practice models were used to allow these individuals to be confronted with potential situations where they would have to use these new skills.[24]

2) *Response Teams*

Following NASMHPD's six core strategies, the hospital formed response teams. Team members were trained on how to handle crisis situations and were tasked with taking charge at the scene. These individuals were required to have continuous Nonviolent Crisis Intervention Training.[24]

3) *Debriefings*

After each crisis incident, the response team was debriefed on the situation. During this meeting the situation was analyzed to determine what actions/techniques were successfully implemented. Areas for improvement were also identified.[24]

4) *Quality Management*

Every four months all members of the response team meet to identify trends using the information collected for their crisis event debriefings.[24] The response team also meets with the Nonviolent Crisis Intervention instructors every month in order to assess whether or not the Nonviolent Crisis Intervention goals and techniques were been implemented effectively. Finally, meetings are held between the response team and the chief nursing officer several times a week in order to review the crisis events that have recently occurred.[24]

5) *Policy Change*

A policy was implemented to decrease the use of mechanical restraints. The policy mandated that staff members were required to receive approval from their supervisors before using mechanical restraints.[24]

6) *Other Changes/Factors that Facilitated Transformation*

Leaders at this state psychiatric hospital were effective in facilitating this hospital's transformation because they were interested in reducing mechanical restraint and promoting a more therapeutic environment. For instance, the chief executive officer at the hospital was a major advocate the policy change. Additionally, the chief nursing officer and the director of quality management were two of the first individuals that volunteered to server on the response team.[24] Another factor that helped facilitate change was that the hospital regularly provided feedback to staff members and used debriefings to communicate information to individuals/consumers involved in a crisis event.[24]

Results

The changes were effective in reducing the use of mechanical restraints in both units. The acute adult unit was able to decrease its use of mechanical restraints 98%, while the community transition unit completely eliminated its use of mechanical restraints.[24] The results from the study suggest that supportive leadership is vital.[24] The changes that took place lead to transformations in the hospital's culture and the way that it operates. It is important that leaders at the hospital want these changes to occur so that they can advocate for these changes. Policy changes, debriefings, open communication/feedback, and performance monitoring are also essential for programs/changes to be implemented effectively. [24]

Virginia: Grafton School, Inc.

Grafton School Incorporated is a non-profit organization located in Virginia that provides treatment services to individuals diagnosed with autism and/or mental retardation. Many of the patients who were served had multiple diagnoses (comorbid). Prior to 2004, Grafton had used restraint procedures to handle aggressive situations. In order to reduce the number of incidents involving restraints, Grafton launched an effort to reduce the use of restraints by mandating that all of its agencies develop a plan to reduce the use of restraints based on evidence-based practices.[1]

To accomplish this task the agencies increased the oversight of their leaders, reviewed seclusion and restraint incidents, developed procedures to support patients experiencing a crisis, had leaders provide staff with more support, and utilized evidence-based practices to determine what types of training and tools would be helpful for staff members to prevent them from using restraint procedures in a crisis situation.[1] Since implementing these procedures, Grafton has almost completely elim-

inated its use of restraints.[1] Based on the data that has been collected the results have led to a 41% decrease in staff injuries, 10% reduction in staff turnover, 94% reduction in costs associated with lost time because less staff members are taking leave, 50% decline in the number claims for workers compensation, 21% decline in liability insurance premiums, increase in job satisfaction among workers, and an increase in perceptions of safety amongst workers.[1] In total, Grafton estimates that it has saved over 2 million dollars with the reductions in staff turnover, liability premiums, and worker's compensation claims.[1]

Violence Risk Assessments

Valid and reliable violence risk assessment tools are important. These tools can help clinicians determine if a patient is at risk for becoming violent, as well as what factors are attributing to this patient's increased risk. Based on this information, clinicians can develop specialized treatment plans for their patients.[25,26,27,28]

Non-forensic Population

The Historical-Clinical-Risk Management-20 (HCR-20)[h] and the Psychopathy Checklist: Screening Version (PCL:SV)[i] have been shown to be effective at predicting violence in non-forensic patients, especially among female non-forensic patients with serious mental illness.[26] Using more than one risk assessment tool can increase predictive validity. Research has shown that using multiple risk assessments is important when predicting violence in female non-forensic patients since risk assessment tools have been developed to determine risk of violence in men.[26]

Forensic Population

As with non-forensic patients, violent risk assessment tools should be used to measure violence in forensic patients. Violence risk assessment tools have been tested with forensic patients to establish their reliability and validity in predicating violence among this population.[25,28] Differences between samples, and study parameters, makes it difficult to determine which tools are the most effective at measuring risk. The Historical-Clinical-Risk Management-20 (HCR-20) and Violence Risk Scale (VRS) have been found to be effective at predicting aggression in forensic inpatients.[25] However, in order to account for differences between studies, a study conducted a meta-analysis on nine risk-assessment tools.[j] The study found that once the differences between the studies (e.g. data structure, county, participant demographics) and any unexplained random effects were accounted for, all nine tools were effective at predicting violence in forensic patients.[28] While there were differences in the strength of their prediction, the differences were not significant.[28] This means that all nine of these tools could be used to predict violence within forensic patients.[28]

Treatment Programs for Violent/Aggressive Patients

Patients who act out tend to have problems controlling their anger. Psychological and anger management treatment programs have been found to be effective at reducing aggression in patients.[29,30,31] Evidence also suggests that cognitive behavioral therapy has been successful in reducing aggression.[30,32] For patients with intellectual or developmental disabilities, anger treatment practices utilizing cognitive behavioral therapy techniques have been shown to be very effective in helping these patients learn to control their anger.[30] This is important, regardless of legal status, patients with intellectual disabilities were found to be at higher risk for being violent than patients without an Axis II disorder to be violent.[6] When it comes to patients who are cognitively impaired because of dementia, their cases are more complex. Dementia patients may be more verbally aggressive/disruptive than physically aggressive. This can be a result of combination of issues. Research has implementing multiple treatment programs at the same time is the most effective method at targeting the biopsychosocial symptoms that these patients are experiencing that may be triggering their aggression.[33]

As noted above, individuals engaging in violent/aggressive behaviors may have a history of trauma. Clinicians should determine if a violent/aggressive patient has experienced trauma in the past. If so, the patient's individualized treatment plan should be modified to involve treatment programs (e.g. cognitive behavioral therapy) that can help a learn how to handle stressful situations that may trigger

h Historical-Clinical-Risk Management-20 (HCR-20) is an assessment tool that was designed to measure risk based on the patients historical information (e.g. their history of engaging acts of violence), clinical factors (e.g. substance use), and risk (e.g. having no support from peers or family) factors (Hogan & Olver, 2016; Nicholls, Ogloff, & Douglas, 2004; Yang, Wang, & Coid, 2010).

i Pyschopathy Checkist: Screening Version (PCL:SV) is an assessment tool that was designed to measure a patients personality to determine if he/she has psychopathic traits. Psychopathy has been linked to violence (Yang, Wang, & Coid, 2010). Studies have shown that it is valid at predicting violence (Hogan & Olver, 2016; Nicholls, Ogloff, & Douglas, 2004; Yang, Wang, & Coid, 2010).

j Historical-Clinical-Risk Management-20 (HCR-20), Risk Matrix 2000 for Violence (RM2000V), Violence Risk Scale (VRS), Offender Group Reconviction Scale (ORGS), Violence Risk Assessment Scheme (VRAC), Psychopathy Checklist (PCL), Level of Service Inventory (LSI), Sexual Violence Risk-20, and Static 99

reminders of their past traumatization.[1,2,14-16]

Forensic Population-Special Considerations

Forensic patients have different needs and risks compared to non-forensic patients and, as a result, require slightly different treatment plans. When developing a treatment plan for a forensic patient it is important for clinicians to develop an individualized treatment plan for that patient that not only targets the patient's symptomology, but also risk factors that make that increase that patients risk of engaging in violent behaviors.[6,28,34.35] It is important that the clinician account for the legal reasons that the forensic patients was admitted to the state psychiatric hospital when developing the treatment plan and when planning that patient's discharge.[34-35] In many states, the court determines whether or not the forensic patient is ready to be discharged from the state psychiatric facility.[11,35] Unlike non-forensic patients who are typically discharged into the community, forensic patients are discharged into the custody of the criminal justice system. Therefore, their treatment plan should be designed to demonstrate whether or not the patient is capable of meeting the criteria that lead to his/her placement in the state psychiatric hospital.[34-35] To demonstrate, if a forensic patient is admitted for competency restoration services than the clinician should demonstrate through the forensic patient's treatment plan that the competency restoration program has improved the patient's competency and that the patient is now able to understand the court proceedings and can assist his/her attorney with his/her case.

Successfully Implemented Treatment Programs

Research has demonstrated the efficacy certain treatment programs at reducing violence in psychiatric hospitals. These programs have been adapted and tested with forensic patients and also demonstrate success in reducing violence within this patient population.

Positive Behavioral Support

The positive behavioral support model is used to develop a treatment plan that attempts to reduce violent/aggressive behaviors by promoting skills/strategies that teach a patient to not use violence. The treatment plans are developed using the perspectives of a multi-disciplinary behavioral health treatment team led by a trained clinician.[36-37] The team works together to identify what factors led to the use of violence. This information is then used to develop a program for the patient that helps him/her skills/behaviors that he/she can use to prevent himself/herself from engaging in a violent act. Behavioral interventions are utilized to help patients develop adaptive behaviors that can be used as alternatives to violence in stressful situations. In essence, the behavioral support model is used to gain a better understanding of why the patient engages in violent behaviors in order to develop strategies that promote the use of skills/behaviors that decrease the patient's level of aggression in order to prevent a violent event from occurring.[36] In order to implement this program it is critical to collect data. Data on how often aggressive events occur, the details surrounding the event, and whether or not there is an increase in the severity of the violent/aggressive behaviors can help administrators determine which cases should be referred for a positive behavioral support treatment plan. Additionally, this information can be used by the treatment team to determine what behaviors should be targeted and how.[36-37] For the model to be effective it must be implemented properly. This means that all staff members must be trained on the positive behavioral support approach and that leaders/management need to continually assess their staff members to make sure that the model is being implemented properly.[36-37] In regards to staff training, it is essential to train all staff members, including staff members who float between units to cover gaps in work schedules.[36-37]

When a hospital is determining if the positive behavioral support model is an appropriate method for reducing violence, the hospital should take several factors into consideration. First, the positive behavioral support model has been shown to be effective in treating patients who: are not improving with the use of psychiatric medication; cannot take psychiatric medications because of adverse side effects or pre-existing medical conditions; have a dual diagnosis of a mental health disorder and an intellectual disability; are so overtly violent/aggressive that they repeatedly have to be secluded or restrained in order to keep people safe.[36-37] While the positive behavioral support approach has been shown to be effective in treating patients with severe/challenging behaviors, results have also indicated that it is not be very beneficial to patients who lack the cognitive ability to learn new skills (e.g. patients who have intellectual disabilities that profoundly limit their cognitive abilities), or patients who intentionally choose to engage in violent behaviors.[36-38] Second, hospitals need to be aware that the implementation of the positive behavioral support model is costly. Providing continual positive behavioral support training to all staff members, designing each positive behavioral support program, and collecting data to measures

the success of the positive behavioral support plan is expensive. One way to save money would be to have one team of behavioral experts that could serve as the multi-disciplinary team on all positive behavioral support plans. Despite its costs, this program has shown success in reducing violence in psychiatric hospitals.[36-37]Another issue that hospitals looking to implement this model need to be cognizant of is that, in order to implement it, the hospital must already have other measures in place. For instance, some of the measures that the hospital should already have in place are: staff training around promoting a culture of safety; previous establishment of a therapeutic environment; utilizing risk screenings at intake to determine which patients may be at risk for violence and require a more thorough risk assessment; have staff members that are trained in techniques to avoid, or at least de-escalate, violent events.[37] The effectiveness of the model will vary between hospitals based on the differences in their resources, training, population served, physical structure, therapies used, and their internal policies.[37]

Despite these limitations, research on the effectiveness of the positive behavioral support model suggests that, when it is implemented properly, it can help reduce the occurrence of violent events.[36] Hospitals that have implemented the positive behavioral support model have seen a reduction in violent events and injuries (especially to staff members). This has resulted in a decrease in the number of worker's compensation claims and an increase in staff motivation. Hospitals that have implemented the positive behavioral model have also noticed a reduction in their use of seclusion and restraint practices. These improvements save hospitals a considerable amount of money since the hospital is no longer spending money on worker's compensation claims, leave (e.g. sick leave), or overstaffing (e.g. assigning additional staff members so that the units are adequately staffed yet there are staff members available to observe patients in seclusion).[36,38]

Aggression Control Therapy

Aggression control therapy is used to help patients control their anger, as well as develop social, self-regulation and moral reasoning skills.[39] Aggression control therapy was derived from cognitive behavioral therapy. This treatment approach is selected for an aggressive/violent patient after a multi-disciplinary team has reviewed data on the client (e.g. file information, evaluation results) and determined that this treatment method is the most appropriate form of therapy to treat their violence/aggression. Aggression control therapy occurs over a 15 weeks period. Patients attend three sessions a week with a clinician that specializes in cognitive behavioral therapy. Aggression control therapy has three components/modules: anger management, social skill development, moral reasoning. This form of therapy is typically provided to a group of patients in order to allow for the patients to practice/apply their new skills. In Hornsveld, Nijman, Hollin, and Kraaimaat's (2008) study each group was composed of eight patients.[39]

The first five weeks of the program works on anger management. Patients learn to recognize their feelings so that they can develop methods to manage them. In the fifth session patients must identify twelve social skills that they could use to avoid engaging in aggressive/violent behavior. Weeks six through ten focus on the patient using these social skills in practice situations. The final five weeks patients are given situations that present an ethical/moral dilemma that they must solve. Over the course of weeks six through fifteen the patients are also simultaneously being taught self-regulation skills. Patients identify their goals and determine what they need to do to achieve these goals or to modify them so that they are more obtainable. After the patients complete the program, follow-ups may occur. Hornsveld, Nijman, Hollin, and Kraaimaat's (2008) study had a follow-up session at Week 20, Week 25, and Week 30. The follow-up sessions allow for the patients to demonstrate how they have progressed.[39]

Data from Hornsveld, Nijman, Hollin, and Kraaimaat's (2008) study on aggression control therapy sessions conducted on 309 forensic patients (inpatient and outpatient) between 2002 to 2007 suggests that this aggression control therapy is successful at moderately reducing aggressive/violent outcomes.[39] Like with the positive behavioral support approach, the aggression control therapy approach is more effective for patients who do not intentionally engage in aggressive/violent behaviors. Patients who act out intentionally can still be involved in aggression control therapy, however, the therapy should coincide with treatments that aim to reduce factors that increase criminogenic risks. In other words, aggression control therapy needs to be occurring while the patient is also receiving treatments that address factors such as: low education level, drug use, problematic relationships, and unemployment.[39]

Once again, for the treatment to be successful it must be

implemented appropriately so that it has integrity. For a treatment program to have integrity there must be evidence supporting its reliability/validity. Additionally, the program must be implemented by trainers that are adequately qualified and that have already been assessed to ensure that they are using the correct measures/techniques. Hornsveld, Nijman, Hollin, and Kraaimaat's (2008) study suggests that, if implemented properly, aggression control therapy has integrity.[39]

Nonviolent Crisis Intervention

Nonviolent crisis intervention training educates staff members on what actions that they can take to de-escalate a situation where a patient is acting in a violent/aggressive manner. Staff members learn what behaviors they should look for in a person, how to respond to the behavior to de-escalate the situation, how to handle their own emotions during the event (e.g. fear), how to determine how at risk a patient is in order to make a better decision on what actions to take to de-escalate the situation, and techniques to use to avoid themselves being physically hurt if the patient becomes violent.[40] The Crisis Prevention Institute offers multiple training courses for this program. The one-day course teaches the above techniques to staff members. The two-day course expands the learning curriculum to include a more in-depth training on intervention techniques. The second day of this program focuses on tasks such as: how to use holding skills in a safe manner that is the least-restrictive to the patient based on his/her level of aggression, what actions staff members should take to continue developing rapport with the aggressive/violent patient, and information about how to conduct a debriefing after the incident.[40] For large facilities, training all staff members can not only be time consuming, but also expensive. If facilities want to have a select few individuals trained to be nonviolent crisis intervention instructors, the facility can enroll a few of their staff members in the Crisis Prevention Institute's four-day instructor certification program. This would allow the facility to train the rest of their staff members in-house. The four-day training program includes information such as: how to tailor the training content to be most applicable to their workplace, how to use the training tools to adequately train staff members, ways to conduct the classes to enhance learning, how to test the competency of their participants/students on the material, how to handle difficult questions, and how to properly teach how and when to use physical interventions.[40]

The Crisis Prevention Institute (CPI) maintains data on various hospitals across the United States that have implemented the nonviolent crisis intervention training. The data suggests that nonviolent crisis intervention training is effective at reducing over 50% of aggressive/violent events, 75%-100% of seclusion and restraint procedures, as well as reducing workers compensation claims by 25-50%.[41,42,43,44,45] Facilities that have used this training method have reported that they were seeing a return on their investment since they were remaining in compliance, reducing worker compensations claims, reducing the costs associated with staff turnover, reducing liability costs associated with seclusion and restraint practices, and seeing improvements in the confidence and skill level of their staff members.[41-45] The implementation of this program at West Yavapai Guidance Clinic, an inpatient center in Arizona, included the provision of refresher courses. Refresher courses were given to staff members every six months.[45] Results from this implementation, like in the other facilities, showed success in reducing aggressive/violent events, use of seclusions and restraint procedures, and workers compensation claims. However, they also found that the additional content increased the effectiveness of the program. Three components were added to the training module. First, a decision making matrix component was incorporated. This component allowed staff members to analyze the possibility of a violent/aggressive event occurring and assess what the potential outcomes of the aggressive/violent event could be.[45] The second component that was added was a response continuum component. The response continuum component allowed staff members to determine, based on the patient, what the best methods would be for de-escalating the situation would be.[45] The last component, the physical skills evaluation component, helped staff members consider when it was appropriate to use a physical intervention and, in instances when they choose to use their method of intervention, what the potential outcomes and/or consequences would be.[45]

Staff Education, Training, and Support

Staff members should be trained on what to do during crisis situations, what warning signs they should look for, and what methods can be utilized to prevent the occurrence of a or to de-escalate the situation.[1,4,5] All staff members should receive refresher courses. Re-training staff members allows the hospitals to make sure that their staff members stay informed about the correct practices to use when handling a violent patients.[4] Utilizing a single vendor for trainings amongst state psychiatric hospitals can be beneficial

because it ensures that staff members within each hospital have received the same information.[4]

To increase moral support and staff satisfaction, staff should feel that they are supported by management.[1] Staff members should be encouraged to report any events that they feel are significant, including incidents of verbal aggression. As noted above, an incident does not have to result in a physical injury for a patient or staff members to be psychologically effected by an event.[3,13] Verbal aggression can have serious consequences. For instance, verbal aggression could lead to staff members may becoming more cynical towards patients.[5] Unfortunately, as studies have shown, nurses do not always feel comfortable reporting verbal aggression.[3,13] Nurses may believe that if they report an incident of verbal aggression that it will be dismissed or that management will believe that they are not capable of handling the stress associated with their job.[13]

Managers should encourage the development of a therapeutic environment.[4,17-19] An example of this would be reducing the use of seclusion practices. Seclusion practices (e.g. placing violent patients in close-observation areas) may make it difficult for nurses to develop a therapeutic relationship with the patient.[18] However, these issues also need to be balanced with keeping other patients safe. Management should work with nurses to determine how they can navigate the ethical dilemma of keeping everyone safe while also providing a therapeutic environment.[17-18]

Debriefings

Evidence suggests that debriefings are important. Debriefings allow for nurses and management to determine why the incident occurred, what measures were used to de-escalate the incident, and why those violence reduction measures were chosen over other available options.[4,17,19,21] This learning opportunity can be insightful for all parties involved in the incident. When possible, patients and witnesses should participate in the debriefing in order to allow for more information to be gleaned from these different perspectives.[19] Reflecting on violent/aggressive incidents can allow for patients and staff members to talk about the reasons behind the event and why certain actions were believed to be the most appropriate. This information can help the individuals involved in the event understand each other's perspectives, develop a dialogue, and determine what steps may be more appropriate for future events.[16-17]

Conclusion

A variety of factors are associated with increased violence in patients. Violence reduction methods should focus on more than just improving symptomology. While symptomology plays a role in violence, other risk factors are more heavily associated with increased risk.[6,7,8,12] Violence reduction methods should address these additional factors.

The implementation of the components of NASMHPD's six core strategies appears to be effective in reducing violence for both patients and staff members. Evidence suggest that changes within leadership, using data to inform policies, training/educating staff members on how to foster a therapeutic environment, utilizing risk assessment tools, and scheduling debriefings after violent/aggressive events are all associated with reducing the number of violent events/episodes and the use of seclusion or restraint procedures.[19] State psychiatric hospital administrators should consider implementing these measures in their facilities, regardless of whether or not their facilities are currently experiencing issues with their rates of workplace violence, to promote safety, to foster a therapeutic environment and increase employee satisfaction levels.

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