THE JOURNAL OF NURSING ADMINISTRATION

Impact of Behavior Management Training on Nurses' Confidence in Managing Patient Aggression

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OBJECTIVE: The aim of this study was to evaluate the impact of behavior management training on nurses' confidence in managing aggressive patients.

BACKGROUND: Nurses are at a high risk of experiencing violence directed toward them by patients.

METHODS: This quality improvement project used a pre-and-post study design. A survey was administered within 1 month before behavior management training and 1 month after training, capturing participants' demographic and work characteristics, as well as their experiences with patient/visitor-perpetrated violence. Confidence was measured using the Confidence in Coping with Patient Aggression Instrument. Open-ended questions sought participants' thoughts on workplace violence prevention initiatives.

RESULTS: Thirty-eight confidence scores were assessed. Nurses' confidence in coping with patient aggression was significantly higher after behavior management training. Nurse participants described the training as "timely," "helpful," and "beneficial."

CONCLUSION: With an increased understanding of violent behavior stages and warning signs, a nurse is better able to manage a potentially violent situation.

The healthcare environment is unpredictable, especially in terms of a patient's clinical status and patient/visitor's behavioral state. Nurses may experience this unpredictable behavior in the form of patient/visitor aggression and violence. When violence is caused by a customer receiving services from an establishment, such as a patient or visitor in a hospital, it is referred to as type II violence.[1,2] Patient/visitor violence in healthcare presents in the forms of physical assault, threatening behavior, bullying, verbal abuse, and harassment.[3] This type of violence can cause physical injury and psychological problems in nurses, which can affect patient care, absenteeism, and turnover.[4]

Significance

In the healthcare arena, nurses and other providers are more likely to be a victim of workplace violence more than any other profession.[5] In a 2016 Bureau of Labor Statistics survey on nonfatal injuries, the healthcare and social assistance industry had an incident rate of 14.3 per 10 000 full-time workers for intentional injury caused by another person, where the national incident rate is 1.7 for all industries.[6] In a study by Speroni et al,[7] 76.0% of nurses surveyed experienced violence directed at them by a patient or visitor in the past year.

Patient and visitor violence impacts individuals, systems, and outcomes in various ways. For example, a study found a significant relationship between exposure to violent events and decreased productivity in providing emotional support for patients and demonstrating empathy.[8] Furthermore, an additional study found that violence against nurses is a high predictor of job burnout.[9]

The psychological impact to nurses not only affects the workplace but can also extend into a nurse's personal life. Nurses who experience patient/visitor-perpetrated violence can experience psychological issues such as nightmares, flashbacks, loss of sleep, and symptoms of posttraumatic stress syndrome.[8]

In addition to the impact on individual nurses, organizations are also affected by patient/visitor-perpetrated

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The authors declare no conflicts of interest.

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violence. Healthcare organizations may observe increased absenteeism and time away from work after the incident of a violent event.[10] Furthermore, Roche et al[11] found that the presence of physical violence was positively correlated with patient outcomes and process measures such as increases in falls, medication errors, and late administration of medication.

Creating a safe work environment is essential in providing quality, patient-centered care. The impact of a violent episode can create long-standing effects for the nurse involved and can ultimately affect the quality of patient care and outcomes.[8]

Literature Review

A review of the literature supports the need to implement training programs for better management of patient violence. National organizations such as the Occupational Safety and Health Administration, National Institute for Occupational Safety and Health, and the Joint Commission have recommended employee training programs for violence prevention. With proper training, healthcare workers can improve their assessment skills to predict aggressive behaviors and de-escalate a violent situation.[12]

A recent systematic review summarized the effects of training on managing challenging patient behavior such as aggression.[13] The review included 17 studies that evaluated a total of 16 training methods. Effective training programs taught study participants de-escalation techniques and communication skills, and they had a significant positive impact on nursing staff confidence in managing challenging patient behavior.

Aim of the Project

This quality improvement (QI) project aimed to assess the effectiveness of behavior management training on nurses' confidence in managing aggressive patients. This assessment is a part of an ongoing organizational initiative to prevent and decrease the incidence of patient and visitor violence.

Methods

Design and Setting

This QI project was deemed as exempt by Duke University's institutional review board (IRB) as well as the organization's IRB where the project was implemented. The setting of this project is a 5-hospital health system that serves the Western Suburbs of Philadelphia, Pennsylvania. There are approximately 2800 nurses and more than 11 000 employees. The health system provides a wide range of services from

emergency, pediatric, and surgical services. This project addresses one of the organization's strategic goal of "enhancing the culture of safety, quality, and security."

Before the intervention, a discussion on patient/visitor violence was conducted with approximately 60 nurses in the health system during a committee meeting. The nurses were asked to provide feedback on the current state of the organizational patient/visitor violence prevention initiatives. Nurses' comments included the need to require behavior management training for all nurses and more administrative support when a patient is continuously aggressive. Nurses reported not feeling safe when 1st and last names are visible on hospital name badges, especially because patients/visitors can access nurses through social media.

Participants

Between September and December 2017, employees at a 5-hospital system were given the opportunity to attend behavior management training. A total of 75 hospital staff attended the training, and 31 of those attendees were RNs. The 31 nurses were invited to participate in a presurvey and postsurvey assessment of confidence in managing aggressive patient behavior.

Training Program

The behavior management training is a 4-hour in-person course in which participants learn warning signs of violent behavior, communication techniques to diffuse a violent situation, and how to maintain personal safety. The training is designed for various healthcare professions and involves both didactic and hands-on teaching strategies.

The training program is the "Management of Aggressive Behavior" (MOAB) training. Management of Aggressive Behavior is a training and consulting organization that teaches participants how to protect themselves from injury and manage aggressive behavior to reduce harm.[14] Management of Aggressive Behavior is used in various industries such as law enforcement, healthcare, education, and the military.

Instrument

Nurses participating in the training were asked to complete online surveys within 1 month before (presurvey) and 1 month after (postsurvey) the training. The surveys included questions related to demographic characteristics, work history, and experiences with patient/visitor violence. The surveys also included the "Confidence in Coping with Patient Aggression" tool,[15] which was used to measure confidence in managing aggressive patient behavior. This tool was 1st tested in a pilot study of professional and paraprofessional mental health clinicians at a psychiatric prison and a Veteran's Administration psychiatric unit. It is a 10-item tool that uses an 11-point Likert-type scale.

The measure has a range from 1 (low confidence) to 11 (high confidence). This tool has a high level of internal consistency (Cronbach's α = .92) and precision (standard error, 1.5). Permission was granted from the instrument developer.

In addition to using the tool as designed, a comparable set of questions in the postsurvey was tailored to capture participants' confidence in coping with visitor-perpetrated aggression. With the concept of the 24/7 hospital and open visiting hours in mind, as well as well-documented concerns in the research literature,[16] specific visitor aggression questions were deemed important. Seven questions from the original tool that focused on patients were reworded to focus on visitors instead.

Analysis

IBM SPSS version 25 (Armonk, New York) was used to perform the data analysis. Descriptive statistics were calculated for demographic data and frequency of exposure to patient/visitor violence. Data were missing for 4 confidence measure item-specific response values; the median value for that item was imputed for each of the 4 missing values. The presurvey and postsurvey confidence in coping with patient aggression means were normally distributed (Shapiro-Wilk, $P > .05$) and compared using an independent sample t test. The Levene's test suggested the difference in the variances of the 2 groups was statistically different ($P < .05$), so a t test for equality of means was used. Internal consistency of the confidence in coping with patient aggression measure was acceptable, with a Cronbach's α of .97 for presurvey responses and .92 for postsurvey responses. Furthermore, internal consistency of the confidence in coping with visitor aggression for the post survey was acceptable with a Cronbach's α of .91. Free-text responses were also reviewed to identify common themes.

Results

Demographic and Work Characteristics

The total response rate was 80%. A total of 25 nurses participated in the survey, providing 38 scores related to confidence in coping with patient aggression and 17 scores (postsurvey only) related to confidence in coping with visitor aggression. Twenty-one nurses completed the presurvey, 17 completed the postsurvey, and 13 completed both. Participants' demographic characteristics are presented in Table 1. Most of the nurse participants were female (95.2%, n = 20), and 57.2% of nurses (n = 12) had 11 or more years of nursing experience. The nurses worked in varying areas of nursing specialties.

Table 1. Distribution of Participants' Demographic and Work-related Characteristics, as Well as Experiences of Patient/Visitor-Perpetrated Violence

	n	%
Overall participants	21	100
Age, y		
20-30	6	28.6
31-40	2	9.5
41-50	5	23.8
51-60	6	28.6
61+	2	9.5
Prefer not to answer	0	0.0
Gender		
Male	1	4.8
Female	20	95.2
Prefer not to answer	0	0.0
Specialty area		
Med/surg	1	4.8
Telemetry	6	28.6
Perioperative	2	9.5
ICU	2	9.5
ED	3	14.3
Pediatrics	1	4.8
Mother/baby/labor/delivery	1	4.8
Cath lab/EP/endoscopy	0	0.0
Psych	0	0.0
Other	5	23.8
Years of nursing experience		
0-5	5	23.8
6-10	4	19.0
11-25	6	28.6
>25	6	28.6
Frequency of experiencing/witnessing patient/visitor-perpetrated violence		
In nursing career		
Never	1	4.8
1-5 times	5	23.8
6-10 times	6	28.6
>10 times	9	42.9
In the past year		
Never	4	19.0
1-5 times	12	57.1
6-10 times	0	0.0
>10 times	4	19.0
Missing	1	0.05
In the past month (postsurvey, n = 17)		
Yes	7	41.2
No	10	58.8

Abbreviations: Cath lab, cardiac catheterization lab; EP, electrophysiology; Psych, psychiatry.

Experiences With Violence From Patients/Visitors

Nearly all participants (95.2%, n = 20) had experienced or witnessed patient/visitor violence at least once in their nursing career, and 80% (n = 16) experienced or witnessed patient/visitor-perpetrated violence in the past year.

Confidence in Managing Patient Aggression

The confidence level of nurses managing patient aggression increased significantly from presurvey to postsurvey with a total mean (SD) score from 42.57 (21.68) to 72.47 (11.12), respectively ($t_{31} = 5.49$, $P < .001$), indicating a large effect size (Cohen's

d = 1.73). The overall and item-specific means, medians, and standard deviations related to confidence in managing patient aggression from the presurvey and postsurvey are presented in Table 2.

Confidence in Managing Visitor Aggression (Postsurvey)

The total mean (SD) score assessed in the postsurvey of managing visitor aggression was 71.2 (12.17) (Table 3). A Pearson correlation was analyzed to assess the relationship between postimplementation patient and visitor total mean scores. Confidence in managing patient and visitor aggression after implementation were strongly correlated ($r = 0.824$, $P < .001$, n = 17).

Participants' Thoughts About Violence and Training

Study participants had the opportunity to provide comments on current organizational initiatives to address patient/visitor violence in the presurvey. Presurvey free-text comments included "timely topic—good idea to offer to front line staff" and "Violence against staff is on the rise." After the training, postsurvey comments were favorable to the intervention. Comments included "It has been very helpful with info that I was able to share with my coworkers and family" and "There has been an increase in aggressive behaviors among patients and visitors. This course is extremely beneficial. The course teaches how to avoid conflicts as well as to remove one's self from danger."

Discussion

This QI project measured the impact of a 4-hour training course on nurses' confidence level of managing patient/visitor aggression. Experiences of patient/visitor aggression were nearly ubiquitous among nurses in this study. Nurses' confidence in managing patient aggression significantly improved after the behavior management training course, consistent with results of other studies using the same tool. Although postintervention time frames differ from one another, studies of nursing staff and nursing students have demonstrated significant differences in preintervention and postintervention means.[14,17-19]

The organization continues to offer MOAB to employees on a voluntary basis but created custom training for physicians and hospital leadership. The training has been well received by study participants as well as hospital employees who have voluntarily taken the class. Furthermore, the organization has

Table 3. *Postsurvey Confidence in Coping With Visitor Aggression*

n = 17	Mean	Median	SD
How comfortable are you in working with an aggressive visitor?	7.00	6	1.87
How good is your present level of training for handling psychological aggression?	7.24	8	1.48
How able are you to intervene physically with an aggressive visitor?	6.47	6	1.94
How self-assured do you feel in the presence of an aggressive visitor?	6.82	7	1.33
How able are you to intervene psychologically with an aggressive visitor?	7.59	8	1.42
How good is your present level of training for handling physical aggression?	7.35	7	1.46
How safe do you feel around an aggressive visitor?	6.71	7	1.99
How effective are the techniques that you know for dealing with aggression?	7.71	8	1.31
How able are you to meet the needs of an aggressive visitor?	7.00	7	1.32
How able are you to protect yourself physically from an aggressive visitor?	7.29	7	1.90
Confidence in coping with visitor aggression	71.18	71	12.17

Table 2. *Presurvey and Postsurvey Confidence in Coping With Patient Aggression*

	Presurvey (n = 21)			Postsurvey (n = 17)		
	Mean	Median	SD	Mean	Median	SD
How comfortable are you in working with an aggressive patient?	4.95	5	2.92	7.06	7	1.43
How good is your present level of training for handling psychological aggression?	4.10	4	1.92	7.24	8	1.48
How able are you to intervene physically with an aggressive patient?	4.10	3	2.49	6.35	7	1.93
How self-assured do you feel in the presence of an aggressive patient?	4.29	4	2.59	7.29	7	1.21
How able are you to intervene psychologically with an aggressive patient?	4.67	5	2.58	7.65	8	1.54
How good is your present level of training for handling physical aggression?	3.71	3	2.17	7.35	7	1.46
How safe do you feel around an aggressive patient?	4.05	3	2.56	6.88	7	1.32
How effective are the techniques that you know for dealing with aggression?	3.90	4	2.17	7.71	8	1.31
How able are you to meet the needs of an aggressive patient?	4.24	5	2.36	7.35	7	1.32
How able are you to protect yourself physically from an aggressive patient?	4.57	4	2.38	7.59	8	1.12
Confidence in coping with patient aggression	42.57	40	21.68	72.47	73	11.12

since decided to require the training for hospital employees in direct contact with patients in specific areas including the emergency department (ED), labor and delivery, and ICU and for employees covering close patient observation, beginning the next calendar year. The organization has also deployed a 2-tiered behavior management response protocol. The 1st tier is a preventative measure and requires the staff member to recognize behaviors that a patient/visitor could become potentially violent. Based on the STAMP (staring, tone, agitation, mumbling, pacing)[3] behaviors, or a feeling of not being safe around the patient/visitor, the staff member can activate the protocol. A response team arrives to the location to hear directly from the clinical team, address their safety concerns, verbally de-escalate the situation, and create a behavior management plan. The 2nd-tier response is considered a behavioral emergency and is activated after the patient/visitor has already become verbally abusive, threatening, or physically violent. To evaluate the effectiveness of the 2-tiered response, the organization will measure the incidence of patient/visitor violent episodes and employee engagement regarding personal safety at work. Furthermore, a Critical Incident Response Team (CIRT) is available to staff after a patient/visitor violent incident. The CIRT members are a group of hospital employees who volunteer to provide psychological first aid to hospital employees.

Limitations

The sample size was limited because the behavior management training was voluntary and, in some cases, was taken on the employee's own time. Furthermore, the training program was open to all employees in contact with patients and visitors, but only nurses' confidence in managing aggression was measured. From September to December 2017, only 31 nurses signed up for the training program. Of the 31 nurses who attended the training, 25 nurses participated in the surveys and 13 completed both the presurvey and the postsurvey. The initial intention was to pair the predata and postdata. However, because the overlap in presurvey and postsurvey participants was approximately 50%, it was deemed best to perform an independent sample t test to compare the total means.

This QI project also did not measure the long-term effects of behavior management training. Although the postsurvey was conducted 1 month after the training program, this project did not assess whether nurses' confidence level in managing aggressive behavior would increase, sustain, or decrease beyond 1 month after training. The review of literature on behavior management training programs showed a scarce amount of studies demonstrating long-term effects. However, a study by Guay et al[18] had an extended measurement period of about 14 months after training, whereas other studies measure postintervention confidence from 2 weeks, 3 months, and 4 months.[14,17,19]

Conclusion

In line with the literature, this QI project supports behavior management training as a method to improve nurses' confidence in managing aggressive patient behavior. Behavior management training should be an integral part of strategies to mitigate patient/visitor violence to create a safe and healing environment for patients and employees. Workplace violence prevention training often includes educational materials on communication skills (such as verbal de-escalation) and warning signs of violence. With a sound understanding of violent behavior stages and warning signs, a nurse is better able to identify potential escalation, mitigate risk, and manage a potentially violent situation.

Acknowledgments

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