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Staff Education to Improve Staff Knowledge and Attitudes Regarding Aggressive Patient Behaviors

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This is to certify that the doctoral study by

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has been found to be complete and satisfactory in all respects,
and that any and all revisions required by
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Executive Summary: Staff Education Project

Staff Education to Improve Staff Knowledge and Attitudes Regarding Aggressive Patient Behaviors

by

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Summary

Aggressive behavior among psychiatric patients threatens safety and quality in healthcare, causing physical and psychological harm to staff and contributing to burnout and high turnover rates. This Doctor of Nursing Practice (DNP) project addressed gaps in staff knowledge and attitudes, particularly among nurses, regarding aggression management and de-escalation techniques through a comprehensive education program on the causes of aggression, warning signs, and effective strategies. The evidence-based practice (EBP) question was, Will staff education on evidence-based strategies for preventing and managing aggressive behavior improve staff knowledge and attitude?

Project team members used the Johns Hopkins Evidence-Based Practice (JHEBP) model to develop training materials and a 36-question anonymous paper-based pre/posttraining survey focused on staff knowledge and attitudes based on the reviewed literature. Participants completed the pretraining survey, reviewed training slides at their own pace, and then completed the posttraining survey. The pre/post-training scores were then statistically analyzed to assess the training's effectiveness.

Lower scores on the survey indicated higher knowledge and more favorable attitudes toward patient aggression. Posttraining results supported an enhancement in staff knowledge and attitudes, with mean scores dropping from 96.38 to 73.38, reflecting a 23.36% improvement. This training model may foster a culture of continuous learning and adaptability, enhancing patient care and promoting diversity, equity, and inclusion in health care environments. By emphasizing these values, the organization may not only improve nursing practice but also foster positive social change by ensuring equitable care tailored to individual patient needs.

Background

The aggressive behavior of psychiatric patients significantly compromises safety and quality in health care, with data from a survey conducted in 2014 showing that 50% to 90% of health care workers, including 40% of psychiatrists, have experienced workplace violence (Duerr, 2024). This violence causes physical and psychological harm to staff, leading to burnout and turnover, while disrupting therapeutic environments and eroding trust between patients and providers (Emary et al., 2024; O'Brien et al., 2024). A critical gap exists, particularly among nurses, in knowledge and attitudes toward managing patient aggression and de-escalation techniques, contributing to the prevalence of such incidents (Sato & Kodama, 2021). Failure to address aggressive behaviors exacerbates health disparities, diminishes staff morale, and increases health care costs due to injuries and legal issues (Moreno & Chhatwal, 2020; Rubio-Valera et al., 2015; Vincent-Höper et al., 2020). Enhanced training and support are essential for improving patient outcomes and creating safer health care environments.

The practice problem in this DNP project was the need to implement a training program to address the knowledge and attitude gap in nursing practice regarding patient aggression at a specific psychiatric hospital. This training was focused on understanding potential causes of aggressive behavior, identifying its signs, prevention strategies, and de-escalation techniques, which are crucial for enhancing safety. I conducted the DNP project to determine whether staff education improves knowledge and attitudes toward managing patient aggression. The project question was, Will staff education on evidence-based strategies for preventing and managing aggressive behavior improve staff knowledge and attitude?

According to the literature, similar trainings have significantly reduced aggressive incidents. For instance, a study in Slovenia's psychiatric hospitals reported a 73% decrease in aggressive incidents and an 86% reduction in severe aggression and physical restraints (Celofiga et al., 2022). Unlike pharmacological interventions and physical restraints, standardized staff training provides a proactive strategy that empowers staff to manage aggressive situations effectively, enhancing staff members' confidence while fostering a therapeutic environment that prioritizes patient dignity and safety.

I conducted the project at a county psychiatric hospital in Southern California, which includes emergency, adult, and adolescent departments. At the time of the project, the hospital employed over 140 health care staff rotating in 12-hr shifts, with a patient population averaging 70 to 80 patients daily across departments. The literature survey identified 66 references across multiple databases, out of which 29 peer-reviewed journal articles were appraised, leading to the selection of 19 articles: one at Level I, four at Level II, 13 at Level III, and one at Level IV. The literature included direct evaluations of specific intervention models as well as supporting studies emphasizing the importance of staff training and its influence on patient aggression. Evidence consistently highlighted the necessity of such training for improving staff knowledge and reducing the frequency and severity of aggressive incidents, with most studies robustly supporting effective staff training as critical in psychiatric settings.

Staff Education Project Development

The project team included one psychiatrist, psychologist, department nurse manager, RN, licensed vocational nurse, behavioral health specialist, and office administrator, with me as team leader. To answer the EBP question, I surveyed staff regarding their knowledge and attitudes on the issue. This was followed by a self-paced training. Afterward, staff were reassessed with the same survey to evaluate the training's effectiveness in addressing the identified gap. Utilizing the JHEBP model, and its practice question, evidence, and translation process (Dang et. al., 2021), the team reviewed the collected literature, drafted appraisals, and summarized evidence, which culminated in recommendations and an action plan. The team developed two key documents: training materials and pre/posttraining questionnaire surveys.

The training materials included PowerPoint slides organized into three modules covering causes of patient aggression, interventions, and recommendations for managing aggressive behavior. The pre/posttraining questionnaire consisted of a 36-item anonymous survey, with questions derived from existing literature, including elements from the Management of Aggression and Violence Attitude Scale (MAVAS) to measure knowledge and attitudes regarding aggression management (Duxbury et al., 2008). The finalized questionnaire included six questions on internal/biological causes, six on external/environmental causes, 10 on situational/interactional causes, and 14 on prevention and management. Demographic data were also collected at the end of the pretraining questionnaire. To maintain anonymity, no name was recorded; instead, a numerical code was assigned to match pre/post questionnaires for each participant.

The program consisted of two phases. The first phase, the pilot program, involved the fielding of pre/postquestionnaires and training so that DNP team members could make modifications. The second phase, the hospital-wide project execution, involved (a) the implementation of training across departments with numerous staff participants and (b) the evaluation of success through comparative statistical analysis of score changes between pre- and postquestionnaires. During the hospital-wide execution, 47 pretraining questionnaires were distributed as paper copies to willing participants from various staff roles. Once a questionnaire was returned, the posttraining questionnaire was given to the participant, and the PowerPoint training modules were shared via email or a SlideShare link printed on the cover page. Training was conducted as an offline, self-paced review of the slides. Forty-two pretraining questionnaires were returned, and 38 staff members completed the entire process and returned their posttraining questionnaires. Six participants were disqualified for reasons including incomplete demographic data, unanswered questions, or missing pages in the returned questionnaires.

Results

To analyze data from the 32 completed questionnaires, I used SPSS Version 30.0.0. Analysis of demographic data revealed that 50% of participants were RNs, 15.6% were certified nursing assistants, and 12.5% were licensed vocational nurses, with the remainder in other roles, as shown in Figure 1. As summarized in Table 1, of the participants, 59.4% were female. The education levels of participants are shown in Figure 2; 43.8% had a bachelor’s degree, and 31.3% had a master’s degree.

Figure 1

Participants' Occupational Roles

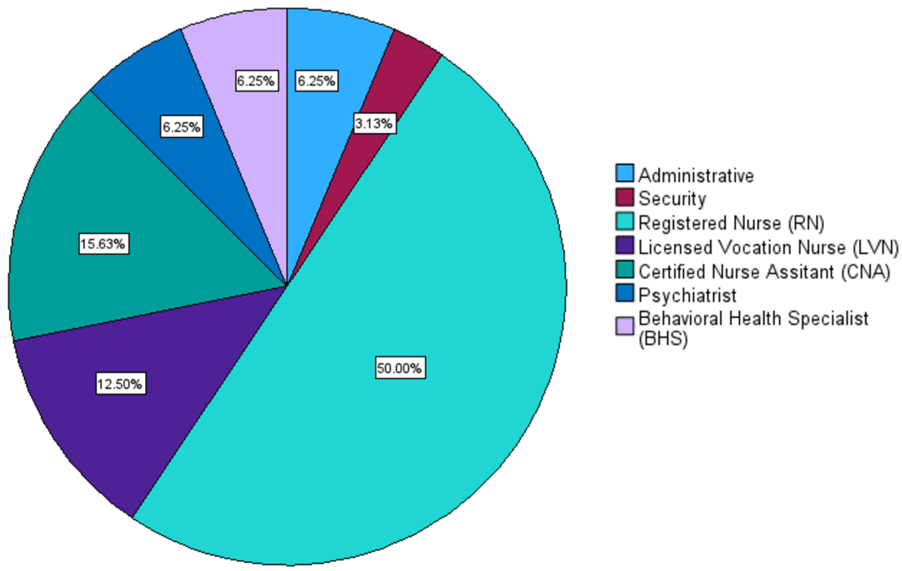


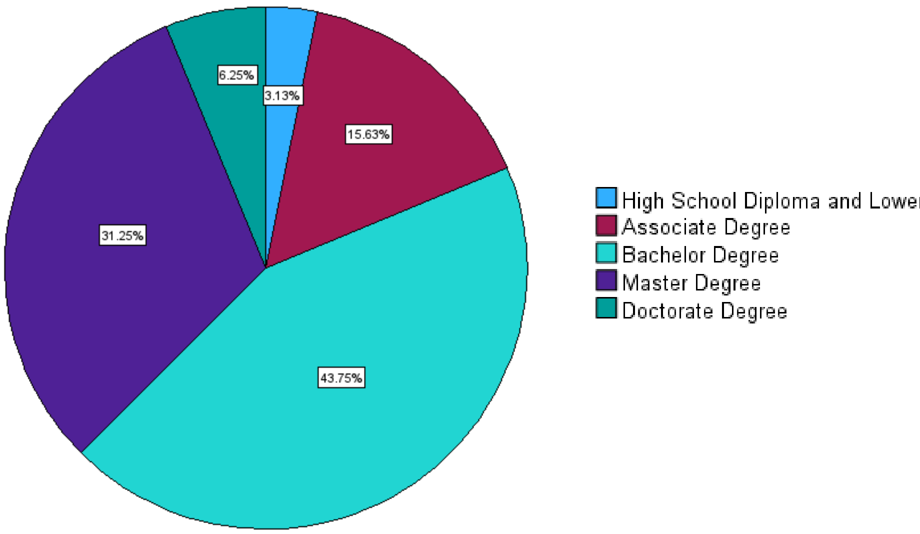
Table 1

Participants' Gender

Gender	*F*	%
Male	13	40.6
Female	19	59.4
Total	32	100

Figure 2

Participants' Educational Level



I undertook the initial descriptive statistical analysis to assess the normality of pre- and posttraining questionnaire scores. For more effective interpretation of individual score changes, I calculated percentage change based on pretraining scores. According to the MAVAS questions used in the DNP project questionnaire, lower scores indicate higher knowledge and better attitudes regarding patient aggression, meaning effective training results in decreased scores. To avoid confusion with negative numbers, absolute values of score changes were used to analyze and interpret the data. Given the small sample size, I employed the Shapiro-Wilk test to check the data for normality, with results presented in Table 2 for pre- and postscores and percentage score changes. The Kolmogorov-Smirnov test results are also shown in the same table.

Table 2

Normality Test Results

Variable	Kolmogorov-Smirnov [a]			Shapiro-Wilk		
	Statistic	*Df*	*p*	Statistic	*df*	*p*
PreTraining_Score	.17	32	.03	.93	32	.04
PostTraining_Score	.13	32	.19	.96	32	.28
PercentageScore_Change	.09	32	.20 [b]	.96	32	.36

[a] Lilliefors significance correction. [b] This is a lower bound of the true significance.

The Shapiro-Wilk test indicated that the pretraining scores had a *p* value of 0.04, suggesting a slight deviation from normal distribution. In contrast, posttraining scores and percentage changes had *p* values of 0.28 and 0.36, respectively, indicating normal distribution. Similar conclusions can be drawn from the Kolmogorov-Smirnov test results. As shown in Table 3, the mean pretraining score was 96.38, decreasing to 73.38 posttraining, reflecting a mean change of 23.36%, indicating the DNP project's success.

Table 3

Means and Standard Deviations of Pre/Post and Percentage Change of Scores

Variable	*N*	*M*	*SD*
PreTraining_Score	32	96.38	16.88
PostTraining_Score	32	73.38	10.89
PercentageScore_Change	32	23.36	6.71

The standard deviation of pretraining scores decreased from 16.88 to 10.89 posttraining, with an even lower standard deviation of 6.71 for percentage changes. This trend indicates that training reduced variability in staff knowledge and attitudes, leading to more consistent results, further supporting the project's success. With all data sets evaluated as normal or slightly deviating, a paired *t*-test was conducted to determine if the mean score changes were statistically significant. The paired *t*-test results are provided in Table 4.

Table 4

Paired t-*Test Results*

Pair 1	Paired differences							Significance	
	M	*SD*	*SEM*	*LL*	*UL*	*T*	*df*	One-sided *p*	Two-sided *p*
PreTraining_Score–PostTraining_Score	23.00	9.24	1.63	19.67	26.33	14.08	31	< .001	< .001

The *p* value, significantly lower than 0.05, indicates a statistically significant difference between pre- and posttraining mean scores, as the confidence interval does not include zero.

To further assess the training's impact and the DNP project's success, I conducted an additional analysis of the four subscales of the MAVAS, as shown in Table 5. The results indicate significant improvements in staff knowledge and attitudes, with an 18.6% change in prevention and management and a 17.3% change in situational/interactional causes. Improvements in external/environmental and internal/biological causes were lower, at 11.8% and 9.1%, respectively, highlighting the need for enhanced training content. These findings also suggest that changing staff attitudes toward these causes may require more detailed materials.

Table 5

Means and Standard Deviations of Score Change for Four Subscales

Scale	*n* Valid	*n* Missing	*M*	*SD*
External/Environmental	6	8	11.79	5.36
Internal/Biological	6	8	9.14	2.25
Situational/Interactional	10	4	17.25	5.48
Prevention/Management	14	0	18.62	9.24

Overall, the project significantly affected the organization, evidenced by reduced mean scores and variability in staff knowledge and attitudes. Furthermore, projects like this may be important beyond the local site because the improved consistency in staff performance and knowledge might enhance the quality of care provided to patients, potentially serving as a model for similar facilities to implement effective training programs that drive positive outcomes in psychiatric care.

I observed two limitations during this project. First, the literature review yielded a limited number of evidence-based questions, requiring reliance on the MAVAS and a few additional articles for the questionnaire. Second, due to staff's demanding schedules and a high-pressure working environment, training was condensed into a 26-slide PowerPoint and delivered in a self-paced format. More effective training could potentially be achieved through instructor-led sessions, either in-person or virtual, to facilitate detailed discussions and Q&A opportunities.

Conclusions

This DNP project had an impact on the organization by successfully addressing the gap in staff’s knowledge and attitudes concerning the causes of aggressive behavior and its prevention and management, resulting in higher knowledge and better attitude among the staff of this hospital regarding patients' aggression. The reduced standard deviation indicates greater alignment in staff practices, essential for achieving consistent patient outcomes. The training also fostered a cohesive understanding among staff, with the potential for improvement of overall patient care quality, which could be the topic for future research.

The training model used in this DNP project has significant implications for nursing practice by promoting continuous learning and adaptability, which enhances patient care and supports diversity, equity, and inclusion in health care. By prioritizing these values, organizational leaders can potentially foster positive social change, ensuring all patients receive equitable care tailored to their unique needs and backgrounds.

Recommendations for enhancing the training program include adding more training material in the areas of external/environmental and internal/biological causes of aggression, making the training mandatory for all staff, offering ongoing education sessions to reinforce concepts, and implementing feedback mechanisms for continuous assessment.

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