

The Relationships between Registered Nurses' Clinical Experience, Clinical Decision Making and Practice Issues with Their Attitudes toward the Use of Physical Restraints in the Critical Care Environment

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Introduction

The use of physical restraints (PRs) has been a common and controversial practice occurring in medicine and nursing for many years. ^{1,2} Physical restraint use in the critical care environment is more likely than other hospital units due to frequency of invasive procedures and the use of mechanical ventilation. ^{2,3,4,5,6,7} The critical care environment itself can cause agitation and added stress by the presence of mechanical ventilation, multiple invasive procedures, fear, pain, anxiety, sensory overload, and disruption to sleep cycles, ⁵ thus increasing the likelihood of using physical restraints. ²

Physical restraint use in acute care settings has been associated with a variety of injuries. These injuries include pressure ulcers and nosocomial infections ^{8,9} as well as bruising, lacerations, nerve injury, and strangulation. ^{10,11} Bladder and bowel incontinence, decreased cognitive ability and awareness, mobility problems, and increased disorientation have also been associated with physical restraint use ⁸ as well as feelings of demoralization, isolation and loss of freedom. ¹¹ Yet, despite these known potential complications, physical restraint use in critical care environments continues both internationally and in the United States. ^{2,11,12,13}

It has been seen that it is the nurses who decide whether or not to restrain a patient with a physician's verbal order often obtained after PR initiation, if at all. ¹⁴ In looking at various factors that can influence this decision, there has been no consensus in the research findings to support a relationship between staffing, experience level, education level, in-service education, and nurses' attitudes toward PR use. ^{7,14,15}

Sample Description

All data collection was conducted electronically using Survey Monkey™. An online solicitation form was sent to all AACN members within the body of the weekly AACN newsletter. A link to the research surveys was embedded within the newsletter for four consecutive weeks. Online data collection helps to minimize any potential risks and allows for greater maintenance of confidentiality. ¹⁹ Only the researcher was able to obtain the completed questionnaire through a private passcode.

Confidentiality and anonymity of participants were maintained throughout the entire data collection process. There is a function of the Survey Monkey online format that is designed to allow for data collection to be anonymous to the researcher. This function was utilized. All collected data were recorded anonymously. The coding system used did not have any identifying information such as names, addresses or social security numbers. Informed consent was implied by the voluntary completion of the research instruments by all participants. To insure further confidentiality of all responses, submitted data were stored only on a memory key and kept in a locked, secure place accessed only by the researcher.

The participants were 413 primarily white (91%) critical care nurses ranging in age from 19 to 68 (M=45.56) from across the United States with the majority holding their Bachelors of Science in Nursing degree (47.5%). Participants were classified as experts based on Benner's ²⁰ classifications, in both experience in nursing in general (88%) and in critical care (82%) in particular. The demographic characteristics of this sample were similar to those listed by AACN.²¹

Methods

A descriptive, correlational study was conducted using two instruments for data collection: a demographic scale created by the researcher and the Physical Restraint Questionnaire ¹⁶ – subscales three: Nursing Practice Issues and subscale four: Attitudes Toward Physical Restraint Use. The Nursing Practice Issues subscale has seventeen items, each with three answer choices – always, sometimes and never. Thirteen items are rated as positive and have frequency anchors of always (3) to never (1) and four items are rated as negative and have frequency anchors of always (1) to never (3). The Attitudes Toward Use of Physical Restraints subscale has twelve items. Each item has three answer choices – agree, disagree, and undecided with a score of agree (2), disagree (0), and undecided (1). Both subscales could be completed in a total of ten minutes.

This instrument was originally developed to examine physical restraint knowledge in nursing personnel in nursing homes in the United States. ¹⁶ It has subsequently been administered to nurses working in other healthcare settings where physical restraints are used, including critical care. ^{15,17} The entire instrument contains four sections. The first section elicits demographic information about participants (23 items), section two assesses level of knowledge about use of restraints (18 items), section three contains items regarding nursing practice issues (17 items) and section four assesses attitudes regarding physical restraint use (12 items). The content validity of the overall questionnaire was found to be 0.86. ¹⁷ For the current study, two subscales of the Physical Restraint Questionnaire were used: Section Three: Nursing Practice Issues and Section Four: Attitudes Regarding Physical Restraint Use. Permission to use the Physical Restraint Questionnaire's two subscales was obtained from the author of the instrument.

Content validity was established for this instrument in several ways. Items for the questionnaire were generated from a careful review of the literature. It was then reviewed and examined by five nurse experts in the care and management of patients regarding the use of restraints. The questionnaire had an original content validity index score of 86%. ¹⁸ Although this instrument has not been widely used, it is the only available instrument written in English currently available to assess attitudes and nursing practice issues related to physical restraint use. Suen et al. ¹⁷ utilized the Physical Restraint Questionnaire in their study examining the knowledge, attitudes, and practices of staff in rehabilitation settings in Hong Kong. Test-retest reliability was established using the intraclass correlation coefficient (ICC). The ICC scores of three of the subsections were: Knowledge of Physical Restraint Use = 0.85; Attitudes Toward Physical Restraint Use= 0.84; and Nursing Practice Issues with Physical Restraint Use = 0.99 respectively. This was seen as reliable. ¹⁷ Yeh et al. ¹⁵ used this instrument in their study examining nurses' PR practices in Taiwanese ICUs. Two subsections were used in this study: Attitude Toward Restraint Use (Cronbach's alpha = .70) and Nursing Practice Issues with Restraint Use (Cronbach's alpha = .73). While its use in the literature has been limited, this instrument has been shown to be reliable. ^{15,17,18} In this study, the reliability for the Nursing Practice Issues with Physical Restraint Use subscale was found to be modest (Cronbach's alpha = 0.563). The reliability for the Attitudes Toward Physical Restraint Use subscale was higher (Cronbach's alpha = 0.784).



Results

The Physical Restraint Questionnaire – Nursing Practice Issues and Attitudes Toward Physical Restraint Use – Survey Results

	Mean (SD)	Actual Range of Scores	Potential Range of Scores	Alpha
Nursing Practice Issues with PR Use	45.12 (2.443)	36-51	17-51	0.56
Attitudes Toward PR Use	16.63 (2.664)	9 – 23	0 – 24	0.78

Means, Standard Deviations, and Bivariate Correlations for Main Study Variables using Pearson and Spearman's rho coefficient

Variable	M	SD	1	2	3
Attitudes regarding PR use	16.63	2.66	-.155*	-.109*	-.138
1- Clinical Experience in Nursing in General	19.84	12.31	---	.887*	.026*
2-Clinical Experience in Critical Care	15.98	11.38		---	.036*
3-Nursing Practice Issues with PR Use	45.116	2.443			---

P < 0.05; * indicates Spearman's rho correlation, all others Pearson's correlation

Conclusions

The results indicate that there was no strong correlation found to explain the variance between the dependent criterion variable (attitudes toward PR use in critical care) and the independent predictor variables (clinical experience in nursing in general, clinical experience in critical care, and nursing practice issues with PR use) in the model. There were no differences found in any of the Benner stages of clinical experience. Nurses at all of Benner's levels from novice through expert had no significant differences in their attitudes toward PR use.

When looking at the ancillary demographic data given by the participants, it was found that overall clinical experience in nursing and clinical experience in critical care had statistically significant correlations with the likelihood of content about PRs being taught during the nurse's basic RN education.

Correlations with Ancillary Variables – Spearman's rho Correlation

Variable	Variable	Spearman's rho	Significance**
Total time working in nursing in general	Taught content about PRs during basic RN education	.374	.000
Benner Stage (Novice-expert) in nursing	Taught content about PRs during basic RN education	.356	.000
Total time working in critical care	Taught content about PRs during basic RN education	.310	.000
Benner Stage (Novice-expert) in critical care	Taught content about PRs during basic RN education	.396	.000

References

Available upon request

