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The Effect of Nurse Practitioners on Nursing Burnout in the ICU Setting: A Pilot Study

Hailey Mishelle Palacios

The Effect of Nurse Practitioners on Nursing Burnout in the ICU Setting: A Pilot Study

by

Hailey Mishelle Palacios

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Project Director's Title: Clinical Assistant Professor

Hailey Palacios 11/27/2023

Student Date

Dr. Tracy Lakin 11/27/23

Director Date

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Hailey Palacios
Student Name (printed)


Student Signature

11/27/2023
Date

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Dedication

I dedicate this Capstone Project to Mom, Dad, and Katelyn, who have shown me immeasurable amounts of love and support through all my academic endeavors. To Dr. Tracy Lakin, who granted support and guidance as my mentor and research partner. To my friends, who always have the most encouraging words. And to Jack, whom I simply could not have done any of this without. Thank you.

Abstract

Background: The purpose of this study was to determine if the presence of dedicated, full-time, nurse practitioners in intensive care units would decrease burnout in bedside nurses.

Methods: A convenience sample, cohort study was conducted in a large hospital system in the southern United States. The participants of this study were bedside nurses from adult ICUs on the main hospital campus. After IRB was obtained through the university and hospital system, a survey was sent out to the ICU unit directors via email which contained a QR code that linked to the survey. The unit directors placed the QR code in staff-only accessible areas. The survey included informed consent, 4 closed-ended questions, and the Oldenburg Burnout Inventory. The data from the survey was analyzed using descriptive statistics and independent t-tests.

Results: An independent-sample t-test was conducted to compare the total burnout scores, engagement scores, and exhaustion scores among nurses who work in ICUs that employ full-time nurse practitioners with those who do not (N=29). There was no significant difference in the total burnout scores ($p = 0.143$) suggesting that there is a ceiling effect meaning that burnout was prevalent. The results for the exhaustion scores (Cohen's d value of 0.511) and engagements score (Cohen's d value of 0.059) did suggest that there would be a statistical significance with a larger sample.

Conclusion: Burnout is an issue among ICU nurses. Having full-time nurse practitioners employed in ICUs does not improve overall burnout for bedside nurses but it does improve engagement and exhaustion amongst bedside nurses.

Keywords: nurse burnout, nurse practitioner, intensive care units

SECTION 1: HONORS THESIS

Introduction

Nursing is a stressful, demanding, and highly intensive job that spans many healthcare settings. Since the COVID-19 pandemic, nurse burnout rates have increased across the United States and the world causing nurses to leave the profession [1]. The American Association of Critical Care Nurses defines burnout as "a state of emotional, mental, and physical exhaustion caused by excessive and prolonged stress" [2]. Among the numerous nursing specialties, critical care nurses experience some of the highest burnout rates in the field, emphasizing that burnout is an "endemic in critical care nursing" [3]. Intensive care unit (ICU) nurses have reported that their feelings and symptoms of burnout have stemmed from the high-stress work environments, the acuity of patients, and from team composition [4]. The factors contributing to increasing burnout rates must be identified and reduced so that nurses can work in a healthy, sustainable environment for hospitals to build and maintain nurse staffing in critical areas. The purpose of this study is to determine if the presence of full-time nurse practitioners on the ICU team would decrease bedside nurse burnout.

Dissemination of Scholarly Work

To disseminate the findings of this project, I presented my work at the 2023 Summer Community of Scholars Poster Session event at The University of Alabama in Huntsville on September 13, 2023. The poster presented at the event can be found in Appendix E. To further share my findings, I submitted the manuscript in the next section of this paper to the Lippincott Wolters Kluwer journal, *Dimensions of Critical Care Nursing*, which is currently with editor.

SECTION II: MANUSCRIPT

Professional Journal Selection

I selected and submitted to the Lippincott Wolters Kluwer journal, *Dimensions of Critical Care Nursing*, after I received a letter of interest from the editor.

Scope of Journal

The scope of *Dimensions of Critical Care Nursing* includes manuscripts that are relevant and focused upon critical care and acute care nursing.

Aims of Journal

Dimensions of Critical Care Nursing aims to provide nurses with accurate, current, and relevant information and services to excel in critical care nursing practice.

Background/Significance

Nursing burnout is a leading factor in the progression of the nursing shortage [5]. Identifying ways to avoid nursing burnout is important in the healthcare community. This project aimed to determine if having a full-time, dedicated nurse practitioner on the ICU team would decrease the rate of bedside nursing burnout. A literature review showed that some of the factors that lead to burnout included poor team composition (negative nurse or physician relationships), inadequate teamwork, unclear roles and responsibilities, and lack of support.

Poor team composition was explored through interviews conducted by Colbenson and her research team. Nurses reported that they feel like their opinions are not valued or heard within their healthcare teams, even when their organizations place emphasis on the importance of interdisciplinary collaboration to improve the quality of patient care and positively influence patient outcomes [4]. Additionally, nurses stated that because their opinions are not valued, "their sense of worth and autonomy" is significantly reduced, therefore creating, and emphasizing feelings of invalidation and underappreciation. Lack of respect for nurse expertise from other healthcare team members will continue to contribute to bedside nurse burnout [4]. Nurse practitioner presence on healthcare teams has been on the rise for the last several years. Their presence has the potential to increase the expertise of nurses and allow them to be heard, which is important as bedside nurses spend the most time with patients. Knowing this, nurse practitioner collaboration with nurses within the care team could increase the amount of time the nurses' opinions are heard through interdisciplinary collaboration, therefore contributing to the autonomy nurses feel in their positions.

Inadequate teamwork has been identified as a leading cause of nurse burnout in critical care settings. ICU nurses have reported that it can be intimidating to voice their opinions to providers, such as physicians, about their patients when participating in interdisciplinary

collaboration like rounding [6]. Vincent and her colleagues say that "ICU's must foster an inclusive, non-intimidating, collaborative work environment in which the contributions and opinions of all team members are valued" [6]. One of the ways that healthcare systems can promote positive collaboration is through the presence of nurse practitioners. While it can be intimidating to voice opinions to the physician, nurses find it easier to talk to nurse practitioners. Because nurse practitioners are advanced practice nurses, they are likely more relatable to the nurses than physicians, potentially fostering a more confident and comfortable environment for collaboration. The support that nurse practitioners can provide to bedside nurses has the potential to promote the professional comfort required for true collaboration.

Having unclear roles and responsibilities within the ICU team can also lead to nurse burnout. Without clear assignment of roles within the healthcare team, nurses are unable to perform to their best ability as they are unsure of their responsibilities. Each team member should have responsibilities that are within their scope of practice, and in areas of their personal expertise and competencies [6]. Nurse practitioners and nurses have different roles and responsibilities within the healthcare team. When these roles are separated and assigned accordingly, the efficiency of the healthcare team can increase. Without clear duties assigned, more stress is placed on the nurses because they cannot complete their duties during their shifts. With collaboration from the nurse practitioner and clear assignments, both healthcare professionals could work together more fluidly and efficiently so the nurses could feel less stressed and capable of managing their required workload.

Support is a very important characteristic in healthcare. Healthcare professionals have challenging jobs, and lack of support only increases the difficulty of the job. In a study completed by Rheaume and her team of researchers, it was discovered that "nurses who received

more organizational support had reduced burnout symptoms" [1]. There are many ways to improve organizational support within healthcare, and one of those ways is through support of nurse practitioners. Nurse practitioners can relate to the feelings of burnout since they were nurses first. Having familiar professionals on the healthcare team can improve support and confidence in bedside nurses. By hearing opinions, encouraging confidence, and promoting collaboration, nurse practitioners can help provide some of the support that nurses long for and thereby reduce the symptoms of burnout. When support is provided, the resilience that nurses feel will be increased as feelings of empowerment grow. Support is such an essential component in reducing burnout because it can increase staff morale and overall staffing numbers, resulting in safer care for patients and happier nurses.

Materials and Methods

Population, Sample, and Setting

Prior to project implementation, IRB was obtained from the hospital system and university. The sample size included bedside nurses that work in critical care units within a large hospital chain in the south. The hospital system consists of seven hospitals that all have intensive care units. Participants consisted of people from different racial and ethnic backgrounds, age groups, and genders. Inclusion criteria included participants who are employed as bedside nurses in ICUs.

The participants of this study included bedside nurses from different adult ICUs on the main campus of a large healthcare system in the south. The email addresses of the unit directors in adult ICUs were obtained. A survey was sent out to the ICU unit directors via email and contained a QR code that links to the survey. The unit directors were asked to place the QR code in staff-only accessible areas such as staff break rooms, staff bathrooms, or by the time clocks in

each ICU. A description of the survey and a consent form was attached at the start of the survey and was accessed by scanning the QR code. Participation was anonymous and voluntary. The survey was posted for two weeks so that more nurses had the opportunity to complete the survey.

Study Design

Data collection took place through a voluntary, convenience, blinded, quantitative survey. The burnout survey used in the study is a validated, open-access tool called the Oldenburg Burnout Inventory. An introduction, informed consent, and open-ended questions were placed in the Google Form prior to the start of the burnout survey. The questions were used to identify the role of the participant and to determine if a dedicated full-time nurse practitioner was employed in the ICUs of the nurses completing the survey.

The survey had two parts, one that asked participants to answer 4 closed-ended questions about the unit they work on and their role, and the second had a published, reliable, and valid burnout survey. The survey was accessed through a QR code that was available in staff-only areas such as break rooms. The burnout survey chosen was the Oldenburg Burnout Inventory. The survey took approximately 5 minutes to complete. The primary investigators were the only people who had access to the data collected, however, there were no participant identifiers within the survey.

Procedure

The survey was built using Google Forms and was converted/embedded into a QR code. An educational introduction regarding the Oldenburg Burnout Inventory was placed within the survey. The participants proceeded to the survey after reading the educational introduction and signing informed consent. The QR code with the link to the survey was available in the adult ICUs for two weeks allowing nurses from different schedules the opportunity to participate in

survey. At the end of the two-week survey period, the results were collected and placed on an Excel spreadsheet. The data was analyzed and the respondents that did not identify as bedside nurses were excluded from the study. The final number of participants was 29 (N=29).

Instruments

The Oldenburg Burnout Inventory (OLBI) is a validated and open-access quantitative survey created in Germany by Demerouti and Nachreiner [7]. The OLBI measures burnout from two viewpoints: exhaustion and disengagement. The survey was composed of 16 questions, 8 measuring dimensions of disengagement and 8 measuring dimensions of exhaustion [8]. Having two subsets of questions is beneficial because the survey considers burnout in more than one dimension, as it is a multifactorial term. In addition to its multidimensional viewpoints of burnout, the OLBI has a Cronbach's alpha score of 0.63, showing that it is reliable in its measurement [9].

Data Collection

Data collection occurred through a survey emailed and posted in each adult ICU within the selected hospital system's main campus. The survey was open and accessible for two weeks. The survey was anonymous and voluntary, so participants were not identifiable. The survey was accessible through a QR code. The data was analyzed by the primary investigators once the survey closed. The data was used to determine if the burnout rate is affected by the presence of a dedicated, full-time nurse practitioner.

Data Analysis

Descriptive statistics were used to summarize participants' characteristics such as job title, and whether they worked in a unit with a full-time nurse practitioner, and if so, was the coverage 24 hours. The original number of respondents was 33, however, 4 of those did not work

as a bedside nurse. The final number of respondents was 29. Of the 29 respondents included in the study, 11 were categorized as yes (they did have a full-time nurse practitioner employed in their unit 24 hours of the day) and 18 were categorized as no (they did not have a full-time nurse practitioner employed in their unit 24 hours of the day). An independent t-test was used to compare the total burnout scores, engagement scores, and exhaustion scores. A $p > 0.05$ was considered a strong correlation. Due to the small sample size, the Cohen's d value was used to determine the strength of the results. For Cohen's d values 0.2 = small effect, 0.5 = medium effect, and 0.8 = large effect.

Results

An independent-sample t-test was conducted to compare the total burnout scores for nurses who work in ICUs that employ full-time nurse practitioners and those who do not. There was no significant difference in scores for nurses who work in ICUs that employ full-time nurse practitioners ($M = 40.91$, $SD = 6.610$) and scores for nurses who work in ICUs that do not employ full-time nurse practitioners ($M = 44.00$, $SD = 4.459$; $t(29) = -1.508$, $p = 0.143$, two tailed). The magnitude of differences in the means (mean difference = -3.091, 95% CI [-7.298, 1.116]) was very small (Table 1). The conclusion of the total burnout scores was that there was a ceiling effect, and that burnout is prevalent in ICUs.

Another independent-sample t-test was conducted to compare the disengagement sub scores for nurses who work in ICUs that employ full-time nurse practitioners and those who do not. There was no significant difference in scores for nurses who work in ICUs that employ full time nurse practitioners and for nurses who work in ICUs that do not employ full-time nurse practitioners ($M = 21.56$, $SD = 2.975$; $t(29) = -1.884$, $p = 0.07$, two-tailed). The magnitude of the differences in the means (mean difference = -2.465, 95% CI [-5.148, .219]) was very small.

This data set has an upper limit Cohen's d value of 0.059, representing that if the sample size was larger, there is a moderate likelihood that statistical significance would be expected (Table 1).

A final independent-sample t-test was conducted to compare the exhaustion sub scores for nurses who work in ICUs that employ full-time nurse practitioners and those who do not. There was no significant difference in scores for nurses who work in ICUs that employ full-time nurse practitioners (M = 21.82, SD = 2.926) and sub scores for nurses who work in ICUs that do not employ full-time nurse practitioners (M = 22.44, SD = 2.332; t (29) = -0.637, p = 0.529, two tailed). The magnitude of the differences in the means (mean difference = -0.626, 95% CI [-2.643, 1.390]) was very small. This data set has an upper limit Cohen's d value of 0.511, representing that if the sample size were to have been larger, there is a moderate likelihood that statistical significance would be expected (Table 1).

Discussion

The purpose of this study was to investigate whether full-time nurse practitioner presence on the ICU team would decrease bedside nurse burnout. This study consisted of 29 total respondents who met inclusion criteria. The 29 participants were separated into a yes and no group depending on whether they had 24 hour a day nurse practitioner presence. The data analysis confirmed that burnout for bedside nurses in ICU setting is high regardless of the presence of nurse practitioners. The data analysis did suggest that having a nurse practitioner as part of the ICU healthcare team does improve engagement and decreases exhaustion as evident by the Cohen's d value. Cohen's d values revealed that this study would have statistical significance in a larger study with a larger sample size.

Conclusion

Having full-time nurse practitioner presence on the ICU team will help with aspects of bedside nurse burnout in ICU settings. This study showed that nurses who work in ICUs with full-time nurse practitioner presence are more engaged in their work and less exhausted than nurses who do not work in ICUs with full-time nurse practitioner presence. This was shown through the disengagement and exhaustion sub scores based on Cohen's d values. To further prove the effect of full-time nurse practitioners on bedside nurse burnout, this study should be replicated on a larger scale with a larger sample size.

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Figures, Illustrations, and Tables

Table 1

Title: Descriptive Statistics - Total, Disengagement, and Exhaustion Scores

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means			
						Significance	
		F	Sig.	t	df	One-Sided p	Two-Sided p
Total	Equal variances assumed	2.738	.110	-1.508	27	.072	.143
	Equal variances not assumed			-1.372	15.625	.095	.189
Disengagement	Equal variances assumed	1.261	.271	-1.884	27	.035	.070
	Equal variances not assumed			-1.747	16.585	.050	.099
Exhaustion	Equal variances assumed	1.013	.323	-.637	27	.265	.529
	Equal variances not assumed			-.602	17.699	.277	.555

Independent Samples Test

		t-test for Equality of Means			
				95% Confidence Interval of the Difference	
		Mean Difference	Std. Error Difference	Lower	Upper
Total	Equal variances assumed	-3.091	2.050	-7.298	1.116
	Equal variances not assumed	-3.091	2.253	-7.877	1.695
Disengagement	Equal variances assumed	-2.465	1.308	-5.148	.219
	Equal variances not assumed	-2.465	1.411	-5.447	.518
Exhaustion	Equal variances assumed	-.626	.983	-2.643	1.390
	Equal variances not assumed	-.626	1.040	-2.813	1.560

Appendix A
Burnout Survey

The Effect of Full-Time Nurse Practitioners on Nursing Burnout in the ICU Setting

* Indicates required question

1. The purpose of this study is to determine if having nurse practitioners dedicated to a specific intensive care unit decreases nursing burnout. The survey will take approximately 5 minutes. Participation is voluntary and completely anonymous. The survey is embedded in this QR code and does not have any personal identifiers. There is no way of linking your responses to the survey. By selecting yes, you are giving informed consent for participation in this research study. For more details, click the link below to view the full consent form. * https://1drv.ms/w/s!Als7sx3_v1WoizW5wvFznZKSX6vG

   If you have any questions about your rights as a research participant, or concerns or complaints about the research, you may contact Hailey Palacios, primary investigator, at 256-361-6969 or you may contact the HH IRC Office at 256-265-6690.

   Mark only one oval.

   ◯ Yes

Burnout Survey

2. What is your position on your unit? *

Mark only one oval.

- ◯ Registered Nurse
- ◯ LPN
- ◯ Nurse Practitioner
- ◯ Physician
- ◯ PCT (patient care tech)
- ◯ Other: _____

3. Do you have a designated (works only in your unit) nurse practitioner for your unit? *

Mark only one oval.

- ◯ Yes
- ◯ No

4. If yes, is 24-hour coverage provided by the nurse practitioner(s)? *

Mark only one oval.

- ◯ Yes
- ◯ No
- ◯ NA

5. If no, please select the coverage provided by your nurse practitioner(s) on your unit. *

Mark only one oval.

- ◯ Day shift (7am - 7pm)
- ◯ Night shift (7pm - 7am)
- ◯ No nurse practitioner coverage
- ◯ NA
- ◯ Other: _____

Oldenburg Burnout Inventory

The Oldenburg Burnout Inventory (OLBI) is a valid and credible survey that was created in Germany. It measures burnout in healthcare professionals from two viewpoints: exhaustion and disengagement. Viewing and measuring burnout from more than one angle is beneficial to creating interventions to offset burnout since it is effected by a variety of factors in the healthcare setting.

6. I always find new and interesting aspects in my work. *

Mark only one oval.

- ◯ Strongly Agree (+1)
- ◯ Agree (+2)
- ◯ Disagree (+3)
- ◯ Strongly Disagree (+4)

7. There are days when I feel tired before I arrive at work. *

Mark only one oval.

- ◯ Strongly Agree (+4)
- ◯ Agree (+3)
- ◯ Disagree (+2)
- ◯ Strongly Disagree (+1)

8. It happens more and more often that I talk about my work in a negative way. *

Mark only one oval.

- ◯ Strongly Agree (+4)
- ◯ Agree (+3)
- ◯ Disagree (+2)
- ◯ Strongly Disagree (+1)

9. After work, I tend to need more time than in the past in order to relax and feel better. *

Mark only one oval.

- ◯ Strongly Agree (+4)
- ◯ Agree (+3)
- ◯ Disagree (+2)
- ◯ Strongly Disagree (+1)

10. I can tolerate the pressure of my work very well. *

Mark only one oval.

- Strongly Agree (+1)
- Agree (+2)
- Disagree (+3)
- Strongly Disagree (+4)

11. Lately, I tend to think less at work and do my job almost mechanically. *

Mark only one oval.

- Strongly Agree (+4)
- Agree (+3)
- Disagree (+2)
- Strongly Disagree (+1)

12. I find my work to be a positive challenge. *

Mark only one oval.

- Strongly Agree (+1)
- Agree (+2)
- Disagree (+3)
- Strongly Disagree (+4)

13. During my work, I often feel emotionally drained. *

Mark only one oval.

- Strongly Agree (+4)
- Agree (+3)
- Disagree (+2)
- Strongly Disagree (+1)

14. Over time, one can become disconnected from this type of work. *

Mark only one oval.

- Strongly Agree (+4)
- Agree (+3)
- Disagree (+2)
- Strongly Disagree (+1)

15. After working, I have enough energy for my leisure activities. *

Mark only one oval.

- Strongly Agree (+1)
- Agree (+2)
- Disagree (+3)
- Strongly Disagree (+4)

16. Sometimes I feel sickened by my work tasks. *

Mark only one oval.

- Strongly Agree (+4)
- Agree (+3)
- Disagree (+2)
- Strongly Disagree (+1)

17. After my work, I usually feel worn out and weary. *

Mark only one oval.

- Strongly Agree (+4)
- Agree (+3)
- Disagree (+2)
- Strongly Disagree (+1)

18. This is the only type of work that I can imagine myself doing. *

Mark only one oval.

- Strongly Agree (+1)
- Agree (+2)
- Disagree (+3)
- Strongly Disagree (+4)

19. Usually, I can manage the amount of my work well. *

Mark only one oval.

- ◯ Strongly Agree (+1)
- ◯ Agree (+2)
- ◯ Disagree (+3)
- ◯ Strongly Disagree (+4)

20. I feel more and more engaged in my work. *

Mark only one oval.

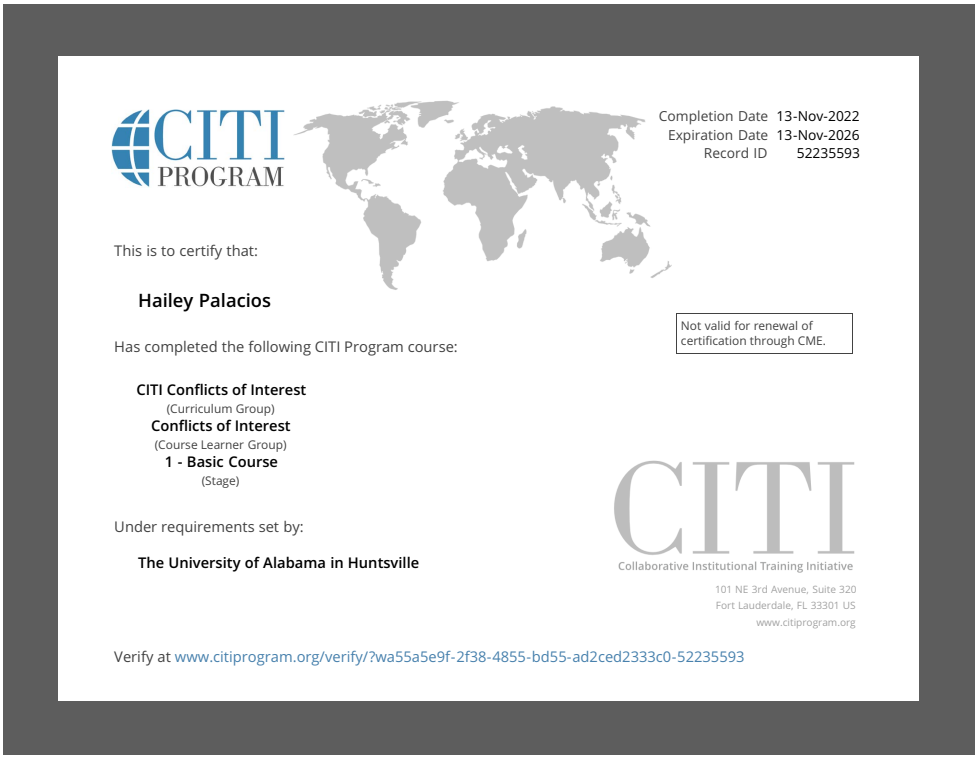
- ◯ Strongly Agree (+1)
- ◯ Agree (+2)
- ◯ Disagree (+3)
- ◯ Strongly Disagree (+4)

21. When I work, I usually feel energized. *

Mark only one oval.

- ◯ Strongly Agree (+1)
- ◯ Agree (+2)
- ◯ Disagree (+3)
- ◯ Strongly Disagree (+4)

Appendix B
CITI Training



CITI PROGRAM

Completion Date 13-Nov-2022
Expiration Date 13-Nov-2026
Record ID 52235593

This is to certify that:

Hailey Palacios

Not valid for renewal of certification through CME.

Has completed the following CITI Program course:

CITI Conflicts of Interest
(Curriculum Group)
Conflicts of Interest
(Course Learner Group)
1 - Basic Course
(Stage)

Under requirements set by:

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CITI
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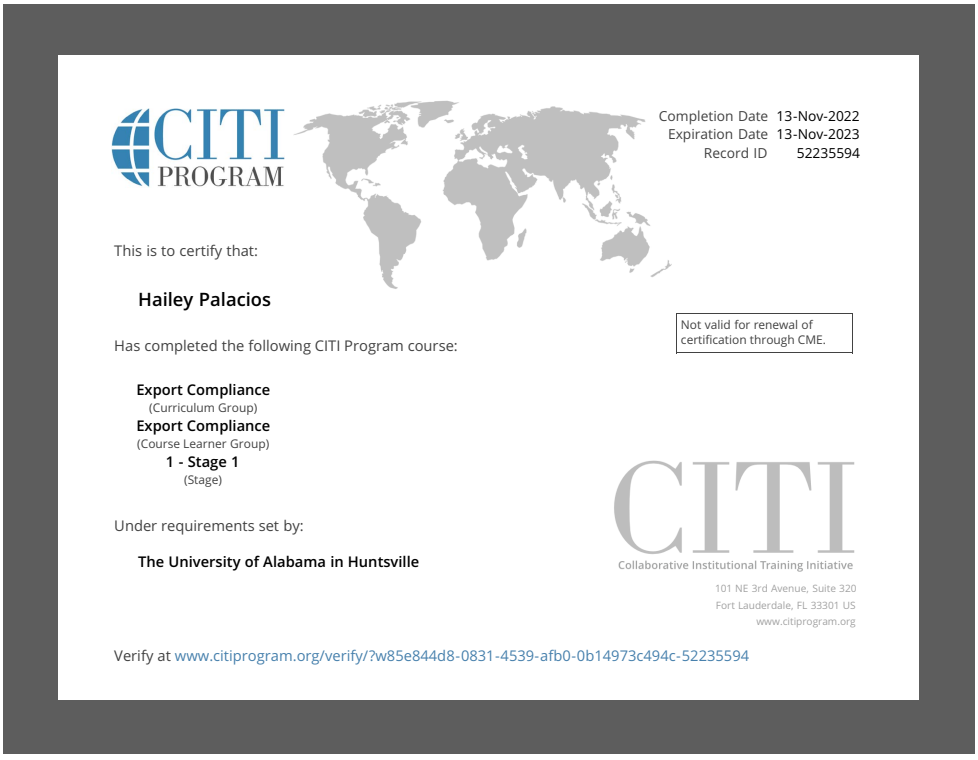
Verify at www.citiprogram.org/verify/?wa55a5e9f-2f38-4855-bd55-ad2ced2333c0-52235593



CITI PROGRAM

Completion Date 13-Nov-2022
Expiration Date 13-Nov-2023
Record ID 52235594

This is to certify that:

Hailey Palacios

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Has completed the following CITI Program course:

Export Compliance
(Curriculum Group)
Export Compliance
(Course Learner Group)
1 - Stage 1
(Stage)

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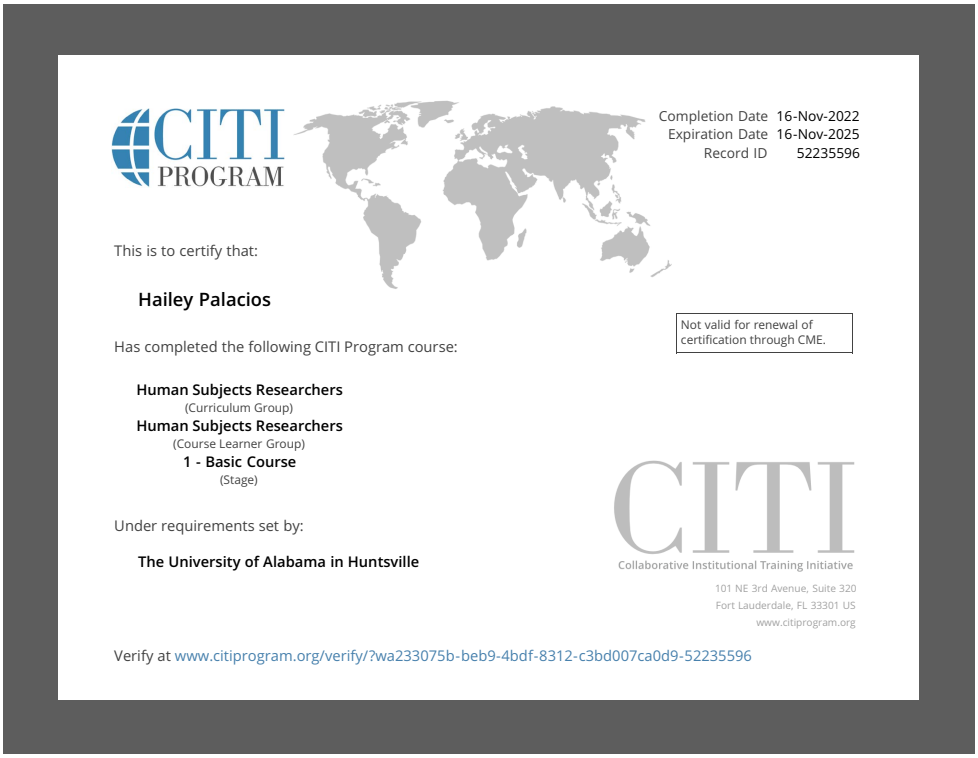
Verify at www.citiprogram.org/verify/?w85e844d8-0831-4539-afb0-0b14973c494c-52235594



CITI PROGRAM

Completion Date 16-Nov-2022
Expiration Date 16-Nov-2025
Record ID 52235596

This is to certify that:

Hailey Palacios

Not valid for renewal of certification through CME.

Has completed the following CITI Program course:

Human Subjects Researchers
(Curriculum Group)
Human Subjects Researchers
(Course Learner Group)
1 - Basic Course
(Stage)

Under requirements set by:

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CITI
Collaborative Institutional Training Initiative

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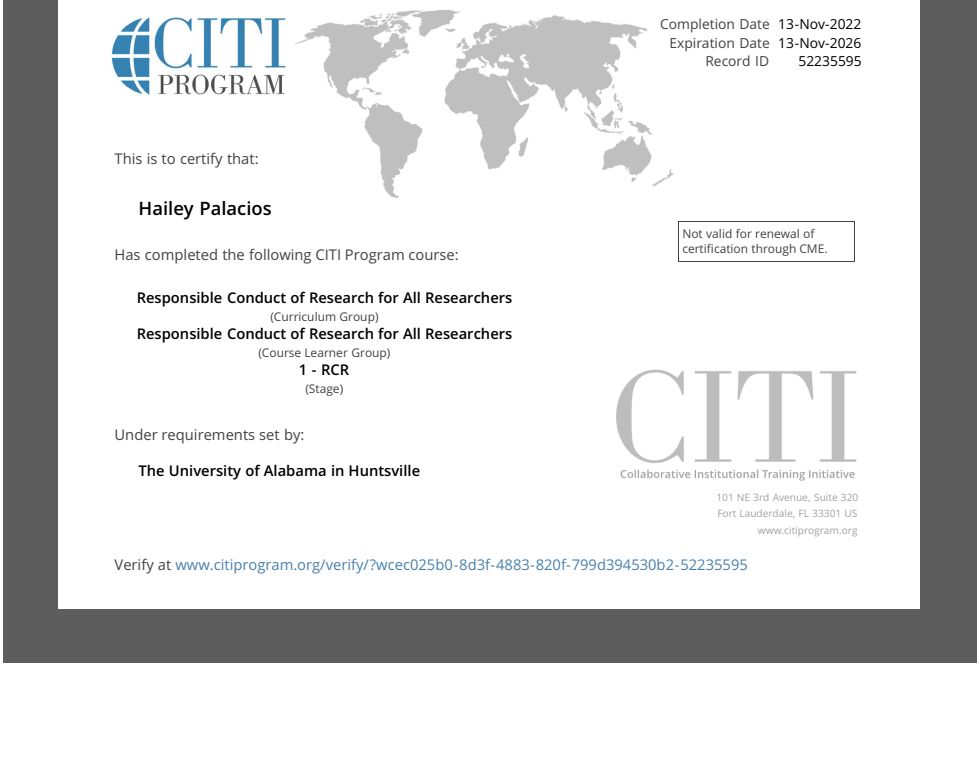
Verify at www.citiprogram.org/verify/?wa233075b-beb9-4bdf-8312-c3bd007ca0d9-52235596



CITI PROGRAM

Completion Date 13-Nov-2022
Expiration Date 13-Nov-2026
Record ID 52235595

This is to certify that:

Hailey Palacios

Not valid for renewal of certification through CME.

Has completed the following CITI Program course:

Responsible Conduct of Research for All Researchers
(Curriculum Group)
Responsible Conduct of Research for All Researchers
(Course Learner Group)
1 - RCR
(Stage)

Under requirements set by:

The University of Alabama in Huntsville

CITI
Collaborative Institutional Training Initiative

101 NE 3rd Avenue, Suite 320
Fort Lauderdale, FL 33301 US
www.citiprogram.org

Verify at www.citiprogram.org/verify/?wcec025b0-8d3f-4883-820f-799d394530b2-52235595

Appendix C
UAH IRB Approval

THE UNIVERSITY OF
ALABAMA IN HUNTSVILLE

_Expedited (see pg 2)
X Exempted (see pg 3)
__ Full Review
__ Extension of Approval

Date: 5 June 2023

PI: Hailey Palacios
PI Department: College of Nursing
The University of Alabama in Huntsville

Dear Hailey,

The UAH Institutional Review Board of Human Subjects Committee has reviewed your proposal titled: *The Effect of Full-Time Nurse Practitioners on Nursing Burnout in the ICU Setting* and found it meets the necessary criteria for approval. Your proposal seems to be in compliance with these institutions Federal Wide Assurance (FWA) 00019998 and the DHHS Regulations for the Protection of Human Subjects (45 CFR 46).
Please note that this approval is good for one year from the date on this letter. If data collection continues past this period, you are responsible for processing a renewal application a minimum of 60 days prior to the expiration date.

No changes are to be made to the approved protocol without prior review and approval from the UAH IRB. All changes (e.g. a change in procedure, number of subjects, personnel, study locations, new recruitment materials, study instruments, etc) must be prospectively reviewed and approved by the IRB before they are implemented. You should report any unanticipated problems involving risks to the participants or others to the IRB Chair.

If you have any questions regarding the IRB's decision, please contact me.

Sincerely,

Ann L. Bianchi

Ann L. Bianchi
IRB Chair
Associate Professor, College of Nursing

OFFICE OF THE VICE PRESIDENT FOR RESEARCH
Von Braun Research Hall M-17 Huntsville, AL 35899 T 256.**824.6100** F 256.**824.6783**

Expedited: form 2

☐ Clinical studies of drugs and medical devices only when condition (a) or (b) is met. (a) Research on drugs for which an investigational new drug application (21 CFR Part 312) is not required. (Note: Research on marketed drugs that significantly increases the risks or decreases the acceptability of the risks associated with the use of the product is not eligible for expedited review. (b) Research on medical devices for which (i) an investigational device exemption application (21 CFR Part 812) is not required; or (ii) the medical device is cleared/approved for marketing and the medical device is being used in accordance with its cleared/approved labeling.

☐ Collection of blood samples by finger stick, heel stick, ear stick, or venipuncture as follows: (a) from healthy, nonpregnant adults who weigh at least 110 pounds. For these subjects, the amounts drawn may not exceed 550 ml in an 8 week period and collection may not occur more frequently than 2 times per week; or (b) from other adults and children, considering the age, weight, and health of the subjects, the collection procedure, the amount of blood to be collected, and the frequency with which it will be collected. For these subjects, the amount drawn may not exceed the lesser of 50 ml or 3 ml per kg in an 8 week period and collection may not occur more frequently than 2 times per week.

☐ Prospective collection of biological specimens for research purposes by noninvasive means. Examples: (a) hair and nail clippings in a nondisfiguring manner; (b) deciduous teeth at time of exfoliation or if routine patient care indicates a need for extraction; (c) permanent teeth if routine patient care indicates a need for extraction; (d) excreta and external secretions (including sweat); (e) uncannulated saliva collected either in an unstimulated fashion or stimulated by chewing gumbase or wax or by applying a dilute citric solution to the tongue; (f) placenta removed at delivery; (g) amniotic fluid obtained at the time of rupture of the membrane prior to or during labor; (h) supra- and subgingival dental plaque and calculus, provided the collection procedure is not more invasive than routine prophylactic scaling of the teeth and the process is accomplished in accordance with accepted prophylactic techniques; (i) mucosal and skin cells collected by buccal scraping or swab, skin swab, or mouth washings; (j) sputum collected after saline mist nebulization.

☐ Collection of data through noninvasive procedures (not involving general anesthesia or sedation) routinely employed in clinical practice, excluding procedures involving x-rays or microwaves. Where medical devices are employed, they must be cleared/approved for marketing. (Studies intended to evaluate the safety and effectiveness of the medical device are not generally eligible for expedited review, including studies of cleared medical devices for new indications).

☐ Research involving materials (data, documents, records, or specimens) that have been collected, or will be collected solely for nonresearch purposes (such as medical treatment or diagnosis).

☐ Collection of data from voice, video, digital, or image recordings made for research purposes.

☐ Research on individual or group characteristics or behavior (including, but not limited to, research on perception, cognition, motivation, identity, language, communication, cultural beliefs or practices, and social behavior) or research employing survey, interview, oral history, focus group, program evaluation, human factors evaluation, or quality assurance methodologies.

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Exempt form 3:

☐ Research conducted in established or commonly accepted educational settings, involving normal educational practices, such as (a) research on regular and special education instructional strategies, or (b) research on the effectiveness of or the comparison among instructional techniques, curricula, or classroom management methods. The research is not FDA regulated and does not involve prisoners as participants.

X☐ Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interviews, or observation of public behavior [1] in which information is obtained in a manner that human subjects cannot be identified directly or through identifiers linked to the subjects and any disclosure of the human subject's responses outside the research would NOT place the subjects at risk of criminal or civil liability or be damaging to the subject's financial standing, employability, or reputation. The research is not FDA regulated and does not involve prisoners as participants.

☐ Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement) survey procedures, interview procedures, or observation of public behavior if (a) the human subjects are elected or appointed public officials or candidates for public office, or (b) Federal statute(s) require(s) without exception that the confidentiality of the personally identifiable information will be maintained throughout the research and thereafter. The research is not FDA regulated and does not involve prisoners as participants.

☐ Research involving the collection or study of existing data, documents, records, pathological specimens, or diagnostic specimens, if these sources are publicly available or if the information is recorded by the investigator in such a manner that subjects cannot be identified, directly or through identifiers linked to the subjects. The research is not FDA regulated and does not involve prisoners as participants.

☐ Research and demonstration projects which are conducted by or subject to the approval of department or agency heads, and which are designed to study, evaluate, or otherwise examine: (i) public benefit or service programs; (ii) procedures for obtaining benefits or services under those programs;(iii) possible changes in or alternatives to those programs or procedures; or (iv) possible changes in methods or levels of payment for benefits or services under those programs. The protocol will be conducted pursuant to specific federal statutory authority; has no statutory requirement for IRB review; does not involve significant physical invasions or intrusions upon the privacy interests of the participant; has authorization or concurrent by the funding agency and does not involve prisoners as participants.

☐ Taste and food quality evaluation and consumer acceptance studies, (i) if wholesome foods without additives are consumed or (ii) if a food is consumed that contains a food ingredient at or below the level and for a use found to be safe, or agricultural chemical or environmental contaminant at or below the level found to be safe, by the Food and Drug Administration or approved by the Environmental Protection Agency or the Food Safety and Inspection Service of the U.S. Department of Agriculture. The research does not involve prisoners as participants.

[1] Surveys, interviews, or observation of public behavior involving children cannot be exempt.

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Appendix D
Huntsville Hospital IRC Approval

HUNTSVILLE HOSPITAL

101 Sivley Road
Huntsville, AL 35801
(256) 265-1000
huntsvillehospital.org

April 24, 2023

Hailey Palacios
UAH-Huntsville
UAH College of Nursing
Huntsville, AL

RE: Request for Institutional Review Committee Exemption of Study - "The Effect of Full-Time Nurse Practitioners on Nursing Burnout in the ICU Setting"

Dear Ms. Palacios:

Thank you for forwarding the Institutional Review Committee Exemption from Review Application to me for your proposed data collection study. Dr. John Cox, Chair of IRC, and I have reviewed your request, and this study qualifies for Exemption from IRC review.

Please note: Any proposals or anticipated changes to the project must be submitted to the IRC Coordinator and approved by the IRC Chair prior to implementation. An Exemption from Review Update Form must be submitted on an annual basis if the study remains open. When your project closes, please advise me by letter or email.

Please contact Medical Records, for medical record access and HIPAA compliancy information, if necessary.

If there is a contract or data agreement required between the study sponsor and the hospital, please contact Kenneth Graves, VP, Legal Services at Kenneth.graves@hhsys.org. Start of the study and release of data cannot begin until the contract has been appropriately signed by both parties and finalized.

If you have any questions or I can be of further service, please feel free to call me at (256)265-6990.

Sincerely,

Allison E. Greene

Allison E. Greene, Division Assistant/
Institutional Review Committee Coordinator

cc: John B. Cox, MD, Chair, IRC
Tracy Lakin, DNP, CRNP

Appendix E
UAH Summer Community of Scholars Honors Capstone Research Poster

THE UNIVERSITY OF ALABAMA IN HUNTSVILLE | COLLEGE OF NURSING

Honors Capstone Research (HCR)
Summer Program 2023

The Effect of Nurse Practitioners on Nursing Burnout in the ICU Setting: A Pilot Study

Hailey Palacios, mentor Dr. Tracy Lakin
College of Nursing

Overview

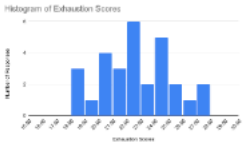
- Bedside nurse burnout is one of the leading causes of the nationwide nursing shortage.
- Some factors that lead to burnout include:
  - Poor team composition
  - Inadequate teamwork
  - Unclear roles and responsibilities
  - Lack of support
- Reduction in the factors is crucial in reducing nurse burnout and improving nurse staffing in intensive care units.
- Nurse practitioners are being staffed in intensive care units more frequently than ever before.
- This project evaluated the effects that full-time nurse practitioners had on burnout in bedside nurses working in intensive care units.

Conclusion/Impact

- The pilot study proved that burnout is a wide-scale issue for bedside nurses in intensive care units.
- A reduction in burnout will impact the field of nursing by improving staffing ratios, maintaining adequate staffing, and increasing the delivery of safe care by healthy nurses.

What's Next?

- In order to confirm the trends discovered in this study, it should be replicated on a larger scale.



Results

- Each data set was analyzed using two-sided, independent t-tests.
- The p-values of the total, disengagement, and exhaustion scores from the Oldenburg Burnout Inventory are as follows: 0.143, 0.070, and 0.529.
- Due to a sample size of less than 30, the Cohen's d values were analyzed.
- Although the data sets are termed statistically insignificant by their p-values, the Cohen's d values suggest that with a larger sample size, the presence of full-time nurse practitioners would reduce bedside nurse burnout, increase bedside nurse engagement, and reduce bedside nurse exhaustion.

References

Acknowledgements
Funding for Honors Capstone Research projects provided by the UAH Honors College.

HONORS COLLEGE
THE UNIVERSITY OF ALABAMA IN HUNTSVILLE