1st International Conference, Exhibition & Innovation on Public Health & International Community Services

Waterfront Hotel Kuching, Sarawak, Malaysia
19-22 Aug 2025

Theory-based Reflective Practice for Intensive Care Unit Nurses: A study protocol

Nor Farahin Gapar, Siti Khuzaimah Ahmad Sharoni[*]
*Corresponding Author

Centre for Nursing Studies, Faculty of Health Sciences,
Universiti Teknologi MARA (UiTM) Selangor, Puncak Alam Campus, 42300 Puncak Alam, Selangor, Malaysia

2024343321@student.uitm.edu.my; sitik123@uitm.edu.my
Tel: +6011-61312606

Abstract

Intensive Care Unit (ICU) nurses are exposed to stressful environments, which can lead to diminished professional fulfilment and a lower quality of life. Reflective practice is a valuable tool for coping strategy but remains underexplored. This study aims to determine the effects of an eight-week theory-based reflective practice intervention structured using C-A-R-E framework on stress levels, professional fulfilment and quality of life among ICU nurses. This quasi-experimental study involves 100 ICU nurses from Klang Valley public hospitals. The data will be analyzed using descriptive statistics, multiple linear regression and mixed-design ANOVA.

Keywords: reflective practice; stress; professional fulfilment; quality of life

1.0 Introduction

Intensive Care Unit (ICU) nurses often face life-threatening cases, staff shortages, and complex ethical dilemmas. This stressor contributes to emotional exhaustion, burnout, and high turnover (Parlak et al., 2024). While stress-management programs such as counselling, debriefing, and resilience training are available in some settings, many of these approaches are short term, inconsistently applied, and lack strong theoretical grounding. They also tend to focus only on coping skills and rarely address deeper reflective processes, professional fulfilment, or long-term quality of life outcomes. As a result, current strategies have limited effectiveness in sustaining improvements in ICU nurses' well-being. Reflective practice enables nurses to evaluate their experiences, fostering insight and adaptive coping mechanisms (Bachore et al., 2024). Although reflective practice is widely implemented in educational contexts, its use as a structured clinical intervention to improve stress, professional fulfilment, and quality of life among ICU nurses remains underexplored. In Malaysia, there is a notable absence of theory-driven reflective practice interventions tailored specifically for ICU

nurses, and no existing study has employed a structured model such as the C-A-R-E framework within a quasi-experimental design. This gap highlights the urgent need for a comprehensive reflective practice intervention that addresses the interconnected demands and well-being needs of ICU nurses. The purpose of this study is to determine the effects of a theory-based reflective practice intervention on stress levels, professional fulfilment, and quality of life among ICU nurses. Therefore, this study aims to determine the effects of an eight-week C-A-R-E (Cultivate Reflective Practice, Alleviate and Manage Stress, Reinforce Professional Fulfilment and Enhance Quality of Life) based reflective practice intervention on stress levels, professional fulfilment, and quality of life among ICU nurses in Klang Valley. With the theoretical underpinnings of the Job Demands-Resources Theory developed by Bakker and Demerouti (2017), the intervention positions reflective practice as a job resource to mitigate the negative effects of job demands. This study protocol outlines a quasi-experimental design to determine the effects of a theory-based reflective practice on stress, professional fulfilment, and quality of life among ICU nurses.

2.0 Literature Review

2.1 Reflective Practice in Healthcare
Reflection is a deliberate process of critically analyzing experience to learn, improve and grow. It encourages individuals to extract meaningful insight and actionable outcomes. Reflection enhances self-awareness by encouraging individuals to evaluate their experiences and turns into a continuous learning process (Tyler et al., 2022). In healthcare practice, reflection improves clinical reasoning, facilitates teamwork through shared learning, and refines strategies in navigating workplace challenges. Reflective practice is a structured process applied systematically in a clinical context to solve problems, improve performance and foster personal growth. It is a structured application of reflection to achieve continuous improvement, often guided by structured models of reflection that break down experiences into components for deeper understanding.

2.2 Stress in ICU Nursing
Stress arises when the demands placed on an individual exceed their ability to cope (Bolado et al., 2024). Stress in ICU nursing is a prevalent and ongoing concern due to the need to manage critical situations, rapid decision-making, and maintaining constant vigilance (Parlak et al., 2024). In ICU, stress occurs following high-intensity events such as performing cardiopulmonary resuscitation following patient collapse, unexpected patient death, experiencing conflicts with colleagues or patient's relatives (Wang et al., 2022). Saravanabavan et al. (2019) further reported that ICU nurses face occupational stress from multiple aspects, such as long working hours, conflict with coworkers, physicians or patient families, lack of rest and staff shortages. In Nigeria, Adeyemi et al. (2024) reported that 35.7% of ICU nurses experience moderate stress while 7.1% experience severe stress.

2.3 Professional Fulfilment in Healthcare
Professional fulfilment refers to a sense of achievement and satisfaction derived from one's work (Hoge et al., 2023). It arises from performing meaningful work, contributing effectively, and receiving support in professional roles (Mete et al., 2022). According to Lea et al. (2023), fulfilment is nurtured when individuals engage in work that aligns with personal and professional values. Reflective practice focusing on individuals' strengths, such as caring and competence, is necessary in facilitating a greater sense of professional fulfilment (Kirk et al., 2025). Reflection on critical incidents, patient complaints, errors and other issues creates opportunities for nurses to learn from experience, identify areas for improvement and develop strategies to overcome barriers.

2.4 Quality of Life in ICU Nursing
Quality of life encompasses various dimensions, such as physical, psychological and social well-being. A study done by Mobarak et al. (2023) shows that nurses often experience diminished quality of life due to long working hours, emotional strain and the psychological demands of their responsibilities. According to Berse et al. (2024), major factors affecting the quality of life among nurses include shift work schedules, workplace environments, and social dynamics. It is reported that nurses have moderate satisfaction with their quality of life, and associated factors that reduce their quality of life include stress, emotional exhaustion, and poor sleep quality (Petrosino et al., 2024). Similarly, Cecere et al. (2023) found that 53.6% of ICU nurses experience a low quality of life physically related to functionality and the ability to perform daily activities due to factors such as long shifts, demanding workloads, and workplace stress.

3.0 Methodology
A quasi-experimental pretest-posttest design approach is employed to determine the effects of theory-based reflective practice on stress, professional fulfilment and quality of life among ICU nurses in Klang Valley. The participant will be assigned to an intervention and control group. The intervention group will participate in an eight-week hybrid reflective practice program that combines face-to-face sessions and recorded sessions. The control group will continue their routine ICU care without additional intervention from the researcher.

3.1 Target Population
ICU nurses from two public hospitals, Hospital Sungai Buloh and Hospital Ampang serve as the target population of the study. ICU setting is characterized by unique demands and issues therefore the selection is driven by the need to understand the effects of reflective

practice within the population. The sample will include ICU nurses from varying shifts, age groups and years of experience to ensure a diverse representation of the workforce. Varied representations of the workforce are ensured by comprising ICU nurses from various ranges of shifts, age groups, and years of experience.

3.2 Study Location
Two well-known public hospitals in the Klang Valley, Hospital Sungai Buloh and Hospital Ampang are chosen as potential study sites due to their diverse ICU nurse populations which reflect various demographic characteristics, ensuring inclusivity and representation in the research. Hospital Sungai Buloh consists of a high census of patients with complex cases, providing a rich context for assessing stress levels and professional fulfilment among nurses. Hospital Ampang is renowned for its multidisciplinary services, and the high census of patients offers insights into the quality of life challenges faced by ICU nurses. Overall, these hospitals ensure the study captures the broad spectrum of ICU working conditions and challenges.

3.3 Sample Size and Sampling Method
The required sample size was calculated using Sakpal's formula for comparing two independent means (Gupta et al., 2016). Based on a significance level of 5% ($Z\alpha = 1.96$), 80% power ($Z\beta = 0.84$), an assumed standard deviation of 0.84, and an effect size of 0.53, the minimum sample size required per group was 39 participants. Accounting for an estimated 28% dropout rate, the final sample size is 50 participants per group. The dropout estimate was derived from previous ICU nurse intervention studies, which reported attrition rates ranging from 0% to 31.2% (Choi & Lee, 2022). Non-probability purposive sampling is employed to determine the cause and effects of the intervention.

3.4 Inclusion and Exclusion Criteria
ICU nurses who work and actively perform bedside nursing care in the ICU departments of Hospital Ampang or Hospital Sungai Buloh serve as the inclusion criteria. Another inclusion criteria of the study are ICU nurses with experience working in the ICU for at least six months. For exclusion criteria, nurses on extended leave, such as maternity or study leave, will be excluded from this study. Participants receiving concurrent psychological counselling or stress management therapy were also excluded to prevent confounding variables. In addition, nurses who had previously completed similar reflective practice training were excluded from the study.

3.5 Instruments
A quantitative survey consisting of demographic data, three dependent variables, stress, professional fulfilment and quality of life will be administered to the participants. Demographic data, including age, level of education, and marital status, will be collected to describe the study sample and understand the potential association with the dependent variable. The Perceived Stress Scale (PSS) (Cohen et al., 1983) is used to measure the degree of perceived stress experienced by the participant over the past month and demonstrated high validity with Cronbach's alpha of 0.83 (Huang et al., 2020). Stanford's Professional Fulfilment Index (PFI) (Trockel et al., 2018) is used to measure three subscales, namely professional fulfilment, burnout and work engagement. This tool has demonstrated high validity and reliability with Cronbach's alpha of 0.866 (Gustafson et al., 2023). Finally, the World Health Organization Quality of Life - Short Version (WHOQOL-BREF) (The WHOQOL Group, 1998) is used to measure quality of life aspects such as physical health, psychological health, social relationships and environment. This tool demonstrates high validity with Cronbach's alpha 0.896 (Ilic et al., 2019).

3.6 Ethical Considerations
All participants will be fully informed about the study's nature and purpose, with the freedom to participate or withdraw at any stage. Informed consent will be obtained following the Declaration of Helsinki (2013). Ethical approval is still awaiting approval from the UiTM Research Ethics Committee. This study will be conducted at Ministry of Health facilities therefore ethical approval will be obtained from the National Medical Research Register (NMRR) and the Medical Research & Ethics Committee (MREC) before data collection. Confidentiality and anonymity of participants will be strictly maintained. The collected data will be anonymized and stored securely on an encrypted device accessible only to the research team.

3.7 Intervention Structure
The ADDIE model is a widely used instructional design framework that consists of five systematic stages, namely Analysis, Design, Development, Implementation and Evaluation (Branch, 2009). In this study, the development of the reflective practice intervention module follows the ADDIE instructional design, which provides a structured method for designing and developing interventions and modules as shown in Table 3.1.

The intervention phase builds on the reflective practice intervention done by Mohajer et al. (2024), who demonstrate a hybrid learning approach combining face-to-face discussion and online learning to enhance professional competency. The intervention structure is shown in Table 3.2. Several expert panels are established to review and evaluate the reflective practice module. The panel includes PhD holder nursing lecturer, a matron or nurse manager in the ICU department, and a senior lecturer from the Faculty of Education with expertise in theory development. In addition, the panel also comprised a clinical psychologist specializing in stress management, a reflective practice trainer in career development discipline and an ICU nurse to ensure the module's relevance and applicability in real settings.

Table 3.1: Development of Reflective Practice Intervention based on ADDIE Model

Stage	Description
Analysis	The researcher identifies key issues and challenges within ICU nursing discipline. A review of existing literature on stress, professional fulfilment, quality of life and reflective practice is conducted. Additionally, a pilot study is planned to gather further information on the central issues and to develop reflective practice modules.
Design	The course and content are systematically designed to help the ICU nurses manage stress, achieve professional fulfilment, and enhance quality of life through reflective practice. The intervention module consists of six chapters, adapted from several reflective practice books, articles and theories such as Gibbs Reflective Cycle (1988). The course structure, content and scope aligned with ICU nursing practice.
Development	The researcher will also collaborate with expert panels to deliver the best possible outcome. Furthermore, the researcher will construct learning activities and create necessary materials such as handouts and worksheets to facilitate the integration of the knowledge into practice. The selection is based on their relevance to the module content and their areas of expertise.
Implementation	The participant will enroll in the intervention course and be required to complete the course within the stipulated time. A hybrid learning approach _____ ____ ___ vide flexible options, allowing participant to complete the course according to their schedules. Recorded sessions _____ __ _____ ng material will be given to participants to minimize potential dropouts.
Evaluation	A post-test questionnaire was given to participants to measure the course's impact on their self-reflection, insight, stress, professional fulfilment and quality of life. The panel of experts are invited to evaluate the module's content validity using Content Validity Index (CVI) approach and written feedback. Refinements to the module are made based on expert feedback to ensure clarity and relevance in ICU nursing context.

Table 3.2: Intervention Structure of the Study

Week	Content / Chapter	Delivery mode	Location	Activity
Week 1	Chapter 1 : Overview of Reflective Practice and Introduction to C-A-R-E framework	Face to Face	Seminar Room in the respective ICU department	Educational Presentation, Peer Discussion, Designated Worksheets, Sharing Session.
Week 2		Online Learning / Recorded Session	Online Platform	
Week 3				
Week 4	Chapter 2 : Cultivating Reflective Practice (C)			
Week 5	Chapter 3 : Alleviating and Managing Stress (A)			
Week 6	Chapter 4 : Reinforcing Professional Fulfilment (R)			
Week 7	Chapter 5 : Enhancing Quality of Life (E)			
Week 8	Chapter 6 : Integrating C-A-R-E Framework	Face to Face	Seminar Room in the respective ICU department	

3.7 Data Collection Procedure

The data collection process will begin eligibility screening (n = 200). From this pool, 100 participants will be assigned to an intervention group (n = 50) and a control group (n = 50). Informed consent will be obtained, and participants will complete a pre-test questionnaire administered online via Google Forms. The intervention group will undergo an eight-week theory-based reflective practice program. Meanwhile, the control group will continue their routine ICU care. Following post-intervention, all participants will complete a post-test questionnaire via Google Forms. The collected data from both the pre-test and post-test will be analyzed. Figure 3.1 shows the flowchart of the data collection procedure.
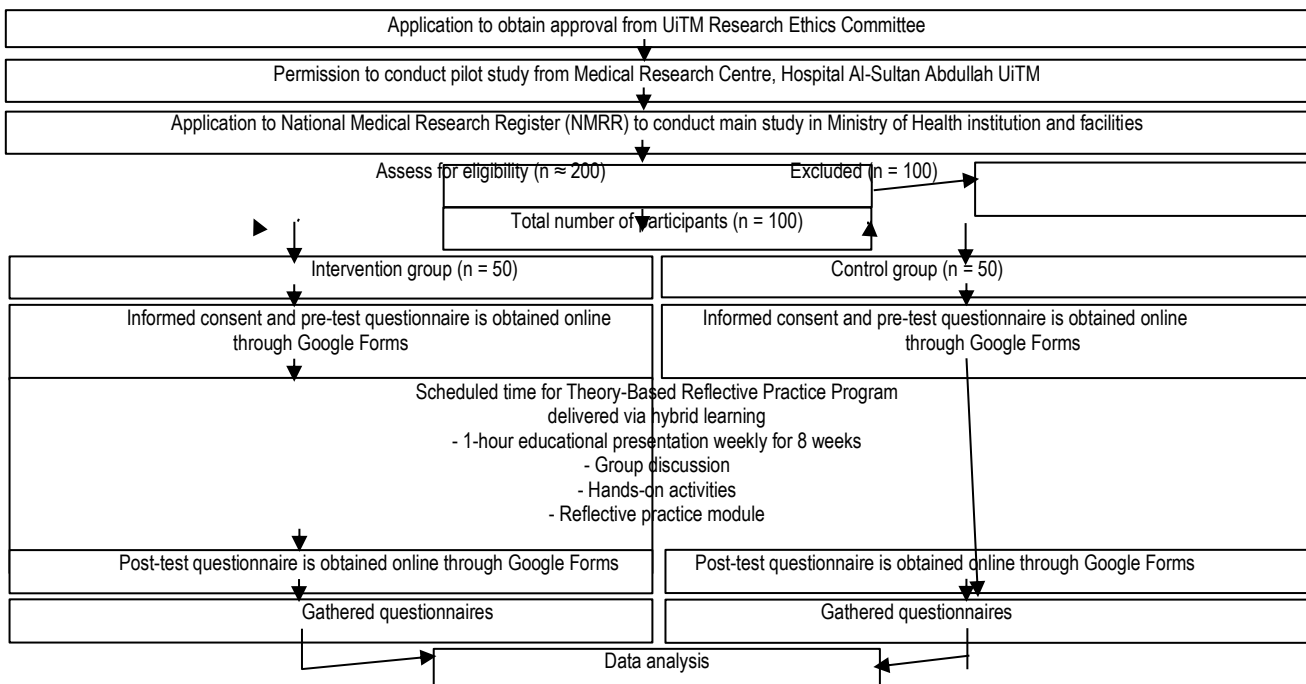

Figure 3.1: Flowchart for Data Collection Procedure

3.8 Data Analysis

SPSS Version 29.0 will be used to analyze the data. Descriptive statistics, such as mean, standard deviation, frequencies, and percentages, will be used to summarize the socio-demographic characteristics of participants, baseline levels of stress, professional fulfilment, and quality of life among ICU nurses. Multiple linear regression analysis will be employed to identify the role of stress and professional fulfilment in predicting quality of life among ICU nurses in Klang Valley. Lastly, a mixed-design ANOVA will be used to determine the effects of the theory-based reflective practice on stress levels, professional fulfilment, and quality of life between the intervention and control groups among ICU nurses before and after the program.

4.0 Discussion

ICU nurses deal with life-threatening cases and face great challenges in their profession daily to continue, sustain or survive. The philosopher John Dewey (1997) believes that reflection turns experience into learning through discipline and critical thinking (Holdo, 2023). It is not just daydreaming or complaining, reflection consists of active, conscious mental engagement in exploring the situation deeply with careful examination of facts, beliefs, feelings and possible biases. The purpose is to learn from our experiences, extract insights, thus inform the present and the future. The proposed intervention is designed using the CARE framework, consisting of four components: Cultivate Reflective Practice, Alleviate and Manage Stress, Reinforce Professional Fulfilment and Enhance Quality of Life. The first component, Cultivate Reflective Practice, exposed nurses to the foundational idea of reflection and fostered the habit of reflective practice. The second component, Alleviate and Manage Stress, focuses on strategies to deal with high-demanding nature of ICU nursing, which contributes to stress among ICU nurses. The third component, Reinforce Professional Fulfilment emphasizes the importance of reconnecting with professional purpose, value, recognizing accomplishment and nurturing a sense of satisfaction and pride in one's role. Lastly, the fourth component, Enhance Quality of Life focuses on promoting overall well-being, nurturing positive emotions while acknowledging negative emotions, and supporting healthier work-life integration. Understanding the sources of stress and how it impacts our responses and behaviour enables the nurses to adopt healthier coping mechanisms, thus reducing emotional exhaustion and burnout symptoms.

5.0 Conclusion and Recommendations

This proposed intervention offers an innovative approach to support the emotional and professional well-being of ICU nurses through reflective practice. Apart from viewing reflective practice as an academic syllabus, the study reframes it as a practical tool for development, decision-making, and resilience. The findings have the potential to inform nursing development programs and well-being initiatives, particularly in critical care settings. By demonstrating how structured reflection can be implemented feasibly in practice, the study may influence future models for integrating reflective strategies into healthcare systems.

Acknowledgements

Paper Contribution to Related Field of Study

This study protocol contributes to the field of nursing and healthcare by introducing a theory-based reflective practice intervention tailored for ICU nurses. It addresses critical issues such as stress, professional fulfilment and quality of life which are often underrepresented within the population. The protocol also provides a framework for future empirical studies and may serve as a model for reflective practice interventions in the overall nursing discipline.

References

Adeyemi, S. S., Adeyemi, A. F., Ogunbanwo, O. M., Oshunpidan, A., & Fatungase, O. M. (2024). Assessment of Levels of Occupational Stress among the Intensive Care Workers in a Selected Hospital in Lagos State. *Journal of Scientific Research and Reports*, *30*(5), 823-842. https://www.sdiarticle5.com/review-history/115433

Bakker, A. B., & Demerouti, E. (2017). Job Demands–Resources Theory: Taking Stock and Looking Forward. *Journal of Occupational Health Psychology*, *22*(3), 273. https://doi.org/10.1037/ocp0000056

Berse, S., Capuk, H., & Agar, A. (2024). Development of the Quality of Life Scale for Shift-working Nurses. *Safety and Health at Work*, *16*(1), 46-52. https://doi.org/10.1016/j.shaw.2024.11.004

Bolado, G. N., Ataro, B., Gadabo, C. K., Ayana, A. S., Kebamo, T. E., & Minuta, W. M. (2024). Stress Level and Associated Factors among Nurses Working in the Critical Care Unit and Emergency Rooms at Comprehensive Specialized Hospitals in Southern Ethiopia, 2023: Explanatory Sequential Mixed-Method Study. *BMC Nursing*, *23*(2341). https://doi.org/10.1186/s12912-024-02004-w

Branch, R. M. (2009). *Instructional design: The ADDIE approach*. Springer. https://doi.org/10.1007/978-0-387-09506-6

Cecere, L., de Novellis, S., Gravante, A., Petrillo, G., Pisani, L., Terrenato, I., Ivziku, D., Latina, R., & Gravante, F. (2023). Quality of Life of Critical Care Nurses and Impact on Anxiety, Depression, Stress, Burnout and Sleep Quality: A Cross-Sectional Study. *Intensive and Critical Care Nursing, 79.* https://doi.org/10.4103/ijnmr.IJNMR_375_20

Choi, M. H., & Lee, M. (2022). Psychosocial and Psychological interventions' Effectiveness among Nurses in Intensive Care Units caring for Pediatric Patients: A Systematic Review and Meta-analysis. *Frontiers in Pediatrics, 10*, 883230. https://doi.org/10.3389/fped.2022.883230

Cohen, S., Kamarck, T., & Mermelstein, R. (1983). A Global Measure of Perceived Stress. *Journal of Health and Social Behavior*, *24*(4). 385–396. http://www.jstor.org/stable/2136404

Gibbs, G. (1988). *Learning by Doing: A Guide to Teaching and Learning Methods.* Oxford Polytechnic, Further Education Unit.

Gupta, K. K., Attri, J. P., Singh, A., Kaur, H., & Kaur, G. (2016). Basic Concepts for Sample Size Calculation: Critical Step for any Clinical Trials. *Saudi Journal of Anaesthesia*, *10*(3), 328–331. https://doi.org/10.4103/1658-354X.174918

Gustafson, K. A., Bates, B., Cline, K. M., & Gothard, M. D. (2023). Concurrent Validity of the Professional Fulfillment Index in a Sample of Pharmacy Residents and Preceptors. *American Journal of Health-System Pharmacy*, *80*(11), 678-686. https://doi.org/10.1093/ajhp/zxad043

Hoge, C., Jaar, B., Bender, A., Urbanski, M., Joseph, J., Damron, K., ... & Plantinga, L. (2023). Professional Fulfillment and Burnout among Multidisciplinary U.S. Dialysis Providers. *American Journal of Kidney Diseases, 81*(4). https://doi.org/10.4103/ijnmr.IJNMR_375_20

Holdo, M. (2023). Critical reflection: John Dewey's relational view of transformative learning. *Journal of Transformative Education*, *21*(1), 9-25. https://doi.org/10.1177/15413446221086727

Huang, F., Wang, H., Wang, Z., Zhang, J., Du, W., Su, C., Jia, X., Ouyang, Y., Wang, Y., Li, L., Jiang, H., & Zhang, B. (2020). Psychometric properties of the perceived stress scale in a community sample of Chinese. *BMC Psychiatry*, *20*(1). https://doi.org/10.1186/s12888-020-02520-4

Ilic, I., Sipetic-Grujicic, S., Grujicic, J., Zivanovic Macuzic, I., Kocic, S., & Ilic, M. (2019). Psychometric properties of the World Health Organization's Quality of Life (WHOQOL-BREF) Questionnaire in Medical Students. *Medicina, 55*(12), 772. https://doi.org/10.1186/s12888-020-02520-4

Kirk, L. A., Siropaides, C. H., Wang, J., & Chou, C. L. (2025). Effective Remediation for Advanced Practice Providers with Lowest Patient Experience: The Power of Relational Resources. *Patient Education and Counseling*, *132*, 108597. https://doi.org/10.1016/j.pec.2024.108597

Lea, J., Perry, S., & Mueller, A. (2023). Assessing Advanced Practice Provider Well-Being in an Academic Medical Center. *Nursing Clinics of North America*, 58(2). https://doi.org/10.1016/j.pec.2024.108597

Mohajer, S., Bagheri, N., Chan, C. M., Danaee, M., Mazlum, S. R., Yoong, T. L., Lopez, V., & Namazinia, M. (2024). Effect of Holistic Reflective Learning Program on Development of Nursing Students' Professional Competency in Geriatric Clinical Practice: A Quasi-Experimental Study. *BMC Medical Education, 24*, 1159. https://doi.org/10.1186/s12888-020-02520-4

Parlak, A. G., Akkus, Y., & Araz, O. (2024). The Effect of Foot Reflexology on Stress, Fatigue, and Low Back Pain in Intensive Care Unit Nurses: A Randomized Controlled Trial. *Pain Management Nursing: Journal of the American Society of Pain Management Nurses*, *25*(5), 494–500. https://doi.org/10.1016/j.pmn.2024.05.013

Petrosino, F., Bartoli, D., Trotta, F., Di Nome, S., Di Sarli, M. G., Frammartino, R., & Giancane, F. (2024). Nurses Quality of Life, Sleep Disturbance and Intention to Leave Critical Care Units: A Cross-Sectional Moderated Mediation Analysis. *Intensive and Critical Care Nursing, 81*. https://doi.org/10.1186/s12888-020-02520-4

Saravanabavan, L., Sivakumar, M. N., & Hisham, M. (2019). Stress and Burnout among Intensive Care Unit Healthcare Professionals in an Indian Tertiary Care Hospital. *Indian Journal of Critical Medicine*, *23*(10). https://doi.org/10.5005/jp-journals-10071-23265

Trockel, M., Bohman, B., Lesure, E., Hamidi, M. S., Welle, D., Roberts, L., & Shanafelt, T. (2018). A Brief Instrument to Assess Both Burnout and Professional Fulfillment in Physicians: Reliability and Validity, Including Correlation with Self-Reported Medical Errors, in a Sample of Resident and Practicing Physicians. *Academic Psychiatry*, *42*(1). https://doi.org/10.1007/s40596-017-0849-3

Tyler, J., Boldi, M. O., & Cherubini, M. (2022). Contemporary Self-Reflective Practices: Large-scale Survey. *Acta Psychologica*, *230*, 103768. https://doi.org/10.1016/j.actpsy.2022.103768

Wang, C. P., Hung, F. M., Ling, M. S., Chiu, H. Y., & Hu, S. (2022). Factors Associated with Critical Care Nurses' Acute Stress Disorder after Patient Death. *Australian Critical Care*, *35*(4). https://doi.org/10.1016/j.aucc.2021.06.007