A survey of moral distress in certified registered nurse anesthetists: A theoretical perspective for change in ethics education for advance practice nurses

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ABSTRACT

Objective: The aim of this study was to examine the relationship between moral distress that may affect patient safety, and the clinical practice model, assessing ethical decision-making skills of certified registered nurse anesthetists (CRNAs).

Methods: A survey using the Ethical Stress Scale (ESS) and the Ethical Assessment Skills Survey (EASS) was conducted with 134 CRNAs.

Results: Results indicated no significant effect of practice model on level of moral distress or perceived ethical assessment skill knowledge (Wilks’s lambda = 0.952, F (6, 256) = 1.068, P = 0.382, n^2 = 0.02). A statistically significant positive correlation existed between importance and skill (r = 0.275, P = 0.001). CRNAs felt skilled to manage the actions or activities they deemed important.

Conclusion: CRNAs who perceived a higher skill level in addressing ethical issues experienced lower levels of moral distress. Findings indicate content-specific curricula for the CRNAs need to be evaluated for ethical decision-making skill assessment content.

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1. Introduction

Certified Registered Nurse Anesthetists (CRNAs) are advanced practice nurses (APNs) in the United States who have received specialized education and training in the field of anesthesiology. CRNAs independently provide more than half of the anesthesia services provided in rural areas [1]. Demographically and economically, many nurse anesthetists are the sole provider of anesthesia services [2], adding value to the role in filling the gap in anesthesia delivery in rural areas in the United States. The most cost-effective delivery of anesthesia services influences the cost of health care and access to health care [1,3]. For these reasons, protecting CRNAs and all APNs from moral distress is important to patient care and the health care economy.

The advocacy role of the APN often results in moral distress from ethical dilemmas stemming from circumstances such as scarce resources, or the challenges posed by conflicts with families and other health care professionals [4–8]. Moral distress is the tension caused by the discrepancy, which may cause feelings of fear, anger, anxiety, and powerlessness [5,8].

One large challenge, to increase production, decrease time, and adhere to strict utilization of resources may cause undue moral distress in the APN who feels these new obligations impinge on the adequacy of patient: practitioner interactions. Production pressure can become overwhelming within the practice of nurse anesthesia, potentially jeopardizing patient safety.

Wilkinson [9] contends that any threat to patient care, such as moral distress, deserves further study. Ample research indicates current ethics education in nursing is not sufficient to meet the demands of ethical decision-making of APNs, including, CRNAs [10–15]. Jameton described moral distress as feelings that arise when it becomes difficult or impossible for a nurse to make decisions he or she feels to be the right choice concerning a patient [5]. Moral distress causes feelings of fatigue, frustration, job burnout, anger, and a fear of job loss and might lead to changes in patient care affecting the safety of the patient [8,16–19]. Moral distress and its effects on nurses have been well described in the literature [5,18,20–23]. The limitation of research on moral distress is that it contains minimal exploration into the experience for the APN, or more specifically, CRNAs.
Radzvin [7,8] described the experience of moral distress in CRNAs but did not explore the perceived ethical assessment skills of CRNAs. Variations exist in the different practice models used in anesthesiology in the U.S. that might affect the experience of moral distress and change the direction of focus for future CRNA education. One variation is the level of supervision or collaboration with an anesthesiologist. Another variation is the autonomy of the role of CRNAs. In managed care or supervisory environments, CRNAs work closely with other anesthesia professionals, but in an independent practice model, a CRNA might be the sole anesthesia provider. To build on prior research, the purpose of this quantitative correlation study was to measure the relationship between perceived ethical assessment skill knowledge and moral distress and how this varies across the three CRNA practice models.

2. Study design and methods

2.1. Ethics statement

This study was submitted for Institutional Review Board approval. Participation in this study was voluntary with participant informed consent. The study involved minimal risk and the participants could withdraw by contacting the researcher.

2.2. Study design

This quantitative correlational study was a random sample using two survey instruments to measure the relationship between moral distress and perceived ethical skill assessment knowledge in the sample of CRNAs across three practice models including medically directed, supervision, and independent practice.

2.3. Setting and participants

The target population was the 44,000 CRNAs in practice in America [24]. Eligible participants were those CRNAs who were active certified members of the AANA. Retired members, nonpracticing members, and students did not meet eligibility requirements for the study. The minimum required sample size was calculated based on a multiple regression with five predictor variables. This statistical test had the largest required sample size of any of the statistical tests used for the study. With a power of 0.80, alpha level of 0.05, medium effect size [13], and five predictor variables, the minimum required sample size was 92. Participants were selected and recruited from a random sample provided by the AANA. Of the CRNAs who met the criteria of active membership who are in practice, a random sample of 920 CRNAs was selected.

2.4. Data collection

A representative from the AANA organization provided permission to recruit subjects, use the name of the organization, and use data from the organization. Participants were recruited from a random sample provided by the AANA via a mailed packet of surveys through the U.S. Postal Service. The AANA selected a random sample of eligible participants for the study, as described in the AANA research sample mailing list policy. The AANA organization provided mailing labels for the randomly selected individuals. From the 920 survey packets mailed, 145 participants returned surveys and 134 CRNAs’ survey data were analyzed, yielding a 15% response rate.

2.5. Questionnaires

Radzvin [7,8] addressed the issue of moral distress in CRNAs using the Ethical Stress Scale (ESS) developed by Raines and Tymchuk [25]. Raines (1994) established a content validity index of 0.89, $P < 0.05$, of the ESS “using a 4-option Content Validity Index rating scale by a group of advanced practice nurse clinicians who were exposed to ethical dilemmas in their practice several times a week” [7]. According to Radzvin [8], “While the original ESS included 56 questions, Raines [30] did not address the method used to calculate the total score for the ESS”. Radzvin [7] calculated the response to the first 52 questions to reach a total ESS score. The lower 10% indicates a high level of moral distress and the median score indicates a moderate level of moral distress. Radzvin tested the first 52 questions for face validity with four nurse educators and tested for internal consistency reliability using Cronbach’s alpha of 0.87 for the research. Raines [30] tested for stability reliability using test–retest methods resulting in a reliability coefficient of $r = 0.82$, $P < 0.005$. This study included the same measurement scales as developed by Radzvin [8].

The study also included the Ethical Assessment Skills Survey (EASS) developed by Cassells and Gaul [26] to assess the self-perceived skill level of ethical decision-making. Cassells and Gaul expanded the EASS tool in 1998 to 12 ethical actions skills from the initial 11-step framework. “Content and expert validity tests were undertaken during the development and revisions of the instrument” and “they have been tested in a number of national and international studies [11].” “Reliability for the EASS was established by the test–retest method, with a coefficient alpha of 0.87 [11].” The focus of the study was to build on Radzvin’s [7] descriptive study of the effects of moral distress on CRNAs.

2.6. Data analysis

Data analysis was performed using Statistical Analysis System (SAS), a statistical software program. A correlation analysis was then performed between the total ESS and the two dimensions of the perceived ethical assessment skill knowledge-measuring perceived importance and perceived ethical skill using Pearson’s correlation coefficient.

Multiple linear regressions were used in answering the first research question to determine if a correlation existed between perceived ethical assessment skill knowledge (perceived importance and skill) and the level of moral distress.

To answer research question 2, the relationship of the practice models was tested using multivariate analysis of variance (MANOVA). The MANOVA provides an analysis to examine intercorrelations of the dependent variables such as in the current study of moral distress and the two dimensions of perceived ethical assessment skill knowledge.

3. Results

3.1. Moral distress and ethical assessment skill level

Descriptive statistics were a result of the data analysis seeking the demographics of the sample (Table 1). The total sum was first calculated for the ESS to better understand the relationship between the participants perceived ethical assessment skill knowledge and the dependent variable moral distress. By replicating the scoring pattern used by Radzvin [8], the total sum of the ESS for Questions 1–52 was used. The total sum for ESS Questions 1–52 ranged from 72 as the lowest to the highest score of 198. Replicating the scoring pattern, the lower 10% of the total was considered the range for a high level of moral distress, which included total scores of 134 and below. A total score of 158.5 (median) to scores of 135 indicated a moderate level of moral distress, and total scores above 158.5 indicated a low level of moral distress. To test whether a
significant correlation existed between perceived ethical assessment skill knowledge and moral distress, both importance and skill were tested on the two-dimensional EASS were tested (see Table 2). The descriptive results of the survey were calculated and correlations were performed with the ESS.

A correlational analysis between moral stress (ESS) and the two dimensions of perceived ethical assessment (EASS), perceived ethical importance and perceived ethical skill, was performed using Pearson’s correlation coefficient. The lower 10% total score on the ESS was again indicative of a higher level of moral distress. Results showed no statistically significant correlation existed between total ESS and perceived ethical importance ($P = 0.250$). A significant positive correlation did exist between the total ESS and skill ($r = 0.348$, $P < 0.001$). A statistically significant positive correlation also existed between importance and skill ($r = 0.275$, $P = 0.001$). The multiple linear regression model used in research question 3 for testing interactions between CRNA model and perceived ethical assessment skill knowledge was expanded by adding other variables such as age, gender, education, and years of experience as covariates. Total moral distress did not show a significant association, $F(1, 117) = 1.515, P = 0.221$, with perceived ethical assessment importance (EASS) after adjusting for age, gender, education, practice model, and number of years as CRNA.

Two multiple linear regression models served to analyze the association between (a) the perceived ethical assessment skill and the level of moral distress (ESS) and (b) the perceived ethical assessment knowledge and the level of moral distress (ESS) while controlling for age, gender, education, years of experience, and the practice model. Total moral distress (ESS) did have a significant positive association ($\beta = 0.006, P = 0.001$) with perceived ethical assessment skill (EASS) even after adjusting for age, gender, education, practice model and number of years as CRNA, $F(1, 117) = 14.705, P = 0.001, R^2 = 0.172$, adjusted $R^2 = 0.080$. The standardized regression coefficient was 3.460 while the raw regression coefficient was 0.006 ($SE = 0.002$) and the intercept was 1.461 ($SE = 0.449$). Certified registered nurse anesthetists who perceived a higher skill level in addressing ethical issues experienced lower levels of moral distress.

3.2. Moral distress and the practice models

Results of this analysis indicated no significant association existed between the three practice models and perceived ethical assessment skill knowledge and moral distress. The relationship between the joint distributions of moral distress (ESS) and perceived ethical assessment skill knowledge (EASS) in the three

One multiple linear regression analysis was performed for each of the three outcome variables: perceived ethical assessment importance, perceived ethical assessment skill, and moral distress. Results of this study showed a significant relationship between the perceived ethical assessment skill level and moral distress. As higher levels of moral distress are measured by a lower total ESS score, CRNAs whose perceived ethical skill was higher felt lower moral distress.

Results showed no statistically significant correlation existed between total ESS and importance ($P = 0.250$). A significant positive correlation did exist between the total ESS and skill ($r = 0.348$, $P < 0.001$). A statistically significant positive correlation also existed between importance and skill ($r = 0.275$, $P = 0.001$). The multiple linear regression model used in research question 3 for testing interactions between CRNA model and perceived ethical assessment skill knowledge was expanded by adding other variables such as age, gender, education, and years of experience as covariates. Total moral distress did not show a significant association, $F(1, 117) = 1.515, P = 0.221$, with perceived ethical assessment importance (EASS) after adjusting for age, gender, education, practice model, and number of years as CRNA.

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### Table 1
Demographic characteristics of the study sample.

| Variable name                                      | n   | %    |
|----------------------------------------------------|-----|------|
| Gender                                             |     |      |
| Male                                               | 56  | 42   |
| Female                                             | 78  | 58   |
| Age group                                          |     |      |
| <30                                                | 7   | 5    |
| 30–40                                              | 36  | 27   |
| 41–50                                              | 33  | 25   |
| 51–60                                              | 39  | 29   |
| Over 60                                            | 18  | 14   |
| Highest level of education                         |     |      |
| Diploma                                            | 5   | 4    |
| Associated degree                                  | 7   | 5    |
| Bachelor of science/Bachelor of science in nursing | 15  | 11   |
| Master of science/Master of science in nursing     | 102 | 77   |
| Doctorate                                          |     |      |
| Current practice model                            | 4   | 3    |
| Independent practice                              | 34  | 25   |
| Managed care practice, with medical direction      | 81  | 60   |
| Managed care practice, with supervisory model      | 19  | 14   |
| Number of years as a CRNA                         |     |      |
| Less than 2 years                                  | 21  | 16   |
| 2-5 years                                          | 16  | 12   |
| 6-10 years                                         | 21  | 16   |
| 11-15 years                                        | 11  | 8    |
| 16-20 years                                        | 21  | 16   |
| 21-25 years                                        | 7   | 5    |
| Greater than 25 years                              | 37  | 27   |

### Table 2
Skill level and importance of each action or activity in the ethical assessment framework (N = 134).

| Action or activity                                      | Perceived skill level | Perceived importance level |
|--------------------------------------------------------|-----------------------|---------------------------|
|                                                        | $\bar{X}$ | $SD$ | $\bar{X}$ | $SD$                  |
| Gathering relevant medical facts                       | 3.59    | 0.62 | 3.221    | 0.624                |
| Gathering contextual data                             | 3.69    | 0.50 | 3.318    | 0.597                |
| Identify a concern or issue that may be an ethical problem | 3.59    | 0.63 | 3.160    | 0.614                |
| Using interdisciplinary resources                      | 3.51    | 0.57 | 2.952    | 0.705                |
| Determining if the problem is an ethical dilemma       | 3.51    | 0.64 | 2.808    | 0.759                |
| Gathering relevant facts on institutional policies     | 3.49    | 0.68 | 3.128    | 0.633                |
| Acting on action selected                              | 3.46    | 0.66 | 2.940    | 0.715                |
| Proposing actions and options                         | 3.34    | 0.65 | 2.841    | 0.770                |
| Clarifying values, rights and duties                  | 3.61    | 0.56 | 3.076    | 0.695                |
| Applying guidelines from relevant codes of ethics      | 3.40    | 0.65 | 2.872    | 0.763                |
| Prioritizing actions identified                       | 3.38    | 0.81 | 2.684    | 0.820                |
| Selecting an ethically justified action                | 3.48    | 0.62 | 2.924    | 0.778                |
| Evaluating actions or options taken                    | 3.51    | 0.64 | 2.902    | 0.780                |
| Gathering relevant facts about state and federal laws  | 3.52    | 0.66 | 3.008    | 0.786                |
| Applying methods of ethical justification to each action proposed | 3.38    | 0.76 | 2.720    | 0.794                |

*a* 1 (not skilled) to 4 (very skilled).

*b* 1 (not important) to 4 (very important).
different practice models was analyzed using a MANOVA. The MANOVA results indicated no significant effect of practice model on level of moral distress or perceived ethical assessment skill knowledge [Wilks's lambda = 0.952, F(6, 256) = 1.068, P = 0.382, \( r^2 = 0.02 \)]. CRNAs effectively demonstrate the ability to adapt to a variety of practice models, without the addition of undue stress to their ethical practice.

4. Discussion

Although research has indicated in a multidisciplinary environment nurses need to be educated for the social situations that affect them in practice [12,17,27], the results of the study did not indicate a significant correlation exists across the three CRNA practice models. Minimizing the negative experience of moral distress for APNs is most significant for leaders of health care organizations and educators. The study supported Fenton's [28] call for a better understanding of clinical work to lessen the curriculum gaps in ethical education. This study has reduced the gap in the current research addressing the subspecialty of nurse anesthetists [13].

Due to the economy, health care leaders must evaluate provider modalities carefully to provide the most cost-effective and safest health care. Hamric, Davis, and Childress, [29] who dialogue during the University of Virginia School of Medicine's weekly multidisciplinary forum The Medical Center Hour, brought attention to the focus on moral distress. Hamric et al. [29] contended moral distress “can compromise health professionals’ moral integrity...[and] in turn compromise the care they provide.” Quality safe patient care is imperative. The conclusion of The Medical Center Hour forum discussion hailed the need to “protect the moral integrity of all clinicians” to provide safe quality patient care. In 2005, the Quality and Safety Education for Nurses (QSEN) project initiation began addressing this importance of safety in preparing nurses for their environment emphasizing the importance to healthcare [30].

The medical model has dominated nursing, permitting the marginalization of the value of nursing ethics as a result [4,14,15]. As APNs struggle to make the decisions they feel are right, they might be in conflict with others in more powerful professional positions. Jameton [5] noted, “In general, reducing the number of instances of moral distress over injustices requires a general flattening of the scales of rewards for labor.” Hamric et al. [29] asked if nurses become insensitive with the experience they gain and if situations become less distressful when nurses gain experience and understanding of those issues, does this dissipates the feelings from an earlier experience.

Limited resources and production pressure might lead CRNAs to be less attentive to the critical care of patients. A thorough assessment is important to plan the most appropriate anesthesia care for the patient. If the CRNA is pressured for time they may not evaluate the patient as thorough as they would without this increase in production pressure. CRNAs might not follow protocol in an attempt to meet demands or might become apathetic and attentive to patient monitoring during surgery as feelings of frustration and burnout occur.

Grady, Danis, Soeken, O'Donnell, Taylor, Farrar, & Ulrich [31] noted, “there is little consensus on the appropriate content of ethics education” and this is reflected in the way ethics education is offered.” Some programs offer independent classes in ethics, whereas others “direct students to courses offered through other academic departments, some integrate threads of ethics and other important content throughout a curriculum [31].” Nursing ethics education research has indicated nurses might not be prepared to make ethical decisions in the current health care environment [10,12–14,18]. Without the education, necessary to address the issues of moral distress, CRNAs might withdraw from the important demands of patient advocacy. Such actions might lead to decreased quality of care for patients [27,32].

The education for CRNAs is moving to the entry to practice doctorate level, lending more evidence for the need to improve ethics education as the CRNA moves forward in leadership skills with the potential for more responsibility and patient advocacy. Nurses need to be ready for the social situations that will affect them in practice [12,14,18].

Applying an interdisciplinary focus is one approach to understand each professional's perspective in ethical decision-making [21]. This study found CRNAs who perceived a higher skill level in addressing ethical issues experienced lower levels of moral distress. When CRNAs struggle to make these decisions, and perceive themselves to be less skilled, moral distress can result, which could affect patient safety and care. Perhaps a cultural and health care environment change, where CRNAs are gaining increased acceptance as part of a collaborative team, as an integral part of the curriculum of nurse anesthesia educational programs can meet the needs of CRNAs.

When the CRNAs' professional morality and practice are not in alignment with the demands imposed by organizational constraints, experiences of moral distress might result [8,21].

Under the theoretical framework of Beauchamp & Childress [32], the challenges of the health care landscape urges for more autonomy of nurses, emphasizing the importance of improved education that targets the needs of the provider [18]. Gariety [12] noted the need for a better understanding of the different specialties such as nurse anesthesia and the issues faced in clinical decision-making. In consideration for curriculum development, these relationships are important and education to manage ethical issues within these relationships is key to improving the APNs’, including CRNAs’, skill. Further research [18] is necessary to explore the best approaches to strengthen ethics education for APNs, including CRNAs.

Several Limitations of this study are identified. Only members of the AANA participated in the study, which eliminated the ability to select a random sample from the entire CRNA population. The low 15% response rate may influence the results of this study and its generalizability. Self-reporting might be limited by self-reporting bias. Difficulty with recall, social desirability, time, and interest in the topic are all potential issues that might have affected participants' responses. Limitations of the ESS tool include the lack of scoring patterns used by Raines [25] and lack of clarity to the subscales used in the tool. The EASS [11] only examined the data statistically including “frequencies, percentages, ranges, means, and standard deviation” (p. 365). The ability to generalize these finding to other advanced practice nurses or non-advanced-practice nurses is unknown.

5. Conclusion

In conclusion, given the practice models do not have a significant effect on the CRNA level of moral distress as indicated in this study; researchers should direct their focus toward developing education to increase skills in making ethical decisions. A future recommendation would be to examine the extent of the ethical decision-making education that APNs receive as part of the curriculum. The focus of curriculum changes might be on clinical practice but the changes might not need tailoring to the different practice models. A qualitative exploration to explore the direct causes for CRNAs who experience high levels of moral distress might further guide curriculum development, as Pauley et al. [18] found improving the current education to be imperative. A recommendation to key stakeholders such as administrators and
management is to evaluate the resources available to APNs dealing with ethical dilemmas.

Appendix A. Supplementary data

Supplementary data related to this article can be found at https://doi.org/10.1016/j.ijnss.2018.03.006.

References

[1] Fallacaro M, Ruiz-Law T. Distribution of US anesthesia providers and services. AANA J [Internet] 2004 Feb;72(1):9–14. Available from: http://proxy.library.vcu.edu/login?url=http://search.ebscohost.com/login.aspx?direct=true&AuthType=ip&cookieId=&session&&!cookie&profile=default&scope=site.

[2] Become a CRNA [Internet]. American Association of Nurse Anesthetists. Available from: https://www.aana.com/memberpage/become-a-crna.

[3] Hogan PF, Seifert RF, Moore CS, Simonson BE. Cost effectiveness analysis of anesthesia providers. Nurs Econ 2010;28(3):159–70.

[4] Jameson JK. Transcending intractable conflict in health care: an exploratory study of communication and conflict management among anesthesia providers. J Health Commun [Internet] 2003 Nov;8(6):563–81. Available from: http://proxy.library.vcu.edu/login?url=http://search.ebscohost.com/login.aspx?direct=true&AuthType=ip&cookieId=&session&&!cookie&profile=default&scope=site.

[5] Jameton A. Dilemmas of moral distress: moral responsibility and nursing practice. AWHONNS Clin Issues Perinat Womens Health Nurs [Internet] 1993;4(4):542–51. Available from: http://europepmc.org/abstract/MED/8220368.

[6] Perry T. The certified registered nurse anesthetist: occupational responsibilities, perceived stressors, coping strategies, and work relationships. AANA J [Internet] 2005 Feb;73(1):351–6. Available from: http://europepmc.org/abstract/MED/16483062.

[7] Radzvin L. Moral distress in certified registered nurse anesthetists: implications for nursing practice. AANA J (Am Assoc Nurse Anesth) 2011;79(1):39–45.

[8] Radzvin L. The occurrence of moral distress in certified registered nurse anesthetists. Thesis 2008 Occurrence of Moral Distress in Certified Registered Nurse Anesthetists 2008. doi:pmid 304638567.

[9] Wilkinson JM. Moral distress in nursing practice: experience and effect. Nurs Forum [Internet] 1987 Apr 1;23(1):16–29. Available from: https://doi.org/10.1111/j.1474-6198.1987.tb00794.x.

[10] Berkemper E, Dubois J, Lavin M, Meyer GA, McSweeney M. Ethics education in MSN programs: A study of national trends. Nurs Educ perspectives 2007;28:10–7.

[11] Cassells JM, Jenkins J, Lea DH, Calzone K, Johnson E. An ethical assessment framework for addressing global genetic issues in clinical practice 2003;30(3). Available from: https://doi.org/10.1188/03.ONF.383-390.

[12] Garity J. Fostering nurses’ study of ethical reasoning and decision-making models: Teaching strategies. Learn Health Soc Care 2009;8:114–22.

[13] Kalb K. O’Conner-von S. Ethics education in advanced practice nursing: respect for human dignity. Nursing Education Perspectives [Internet] 2007;28(4):196–202. Available from: http://journals.lww.com/monpeonline/Fulltext/2007/07000/Ethics_Education_in_Advanced_Practice_Nursing_9.aspx.

[14] Kelly B. Preserving moral integrity: a follow-up study with new graduate nurses. J Adv Nurs [Internet] 1998 Nov 1;28(5):1134–45. Available from: http://doi.wiley.com/10.1046/j.1365-2648.1998.00810.x.

[15] Woods M. Nursing Ethics Education: are we really delivering the goods? J Nurs Ethics [Internet] 2005 Jan 1;11(1):5–18. Available from: https://doi.org/10.1191/0969733005ne754oa.

[16] Corley M. Development and evaluation of a moral distress scale 2001;33:250–6.

[17] Jenkins CL, Elliott MAJR, Harris COLJR. Identifying ethical issues of the department of the army civilian and army nurse corps certified registered nurse anesthetists. Mil Med August 2006;2006;171:762–9.

[18] Pauly BM, Varco C, Storch J. Framing the issues: moral distress in health care. HEC Forum [Internet] 2012;24(1):1–11. Available from: https://doi.org/10.1107/s10730-012-9176-y.

[19] Raines ML. Ethical decision making in nurses: relationships among moral reasoning, coping style, and ethics stress. JONAS Health Care Ethics Regul [Internet] 2000;2(1). Available from: http://journals.lww.com/jonalaw/fulltext/2000/0210/Ethical_Decision_Making_in_Nurses_Relationships.6.aspx.

[20] Corley MC, Minick P, Elswick RK, Jacobs M. Nurse moral distress and ethical work environment. Nurs Ethics [Internet] 2005 Jul 1;12(4):381–90. Available from: https://doi.org/10.1191/0969733005ne809oa.

[21] Hamric AB, Blackhall LJ. Setting; Fourteen ICUs in two institutions in different regions of 2007;35(2):422–9.

[22] Radzvin L. The occurrence of moral distress in certified registered nurse anesthetists [Internet], duquesne university 2008. Available from: http://etd.library.duq.edu/dm-etd/adt/document.php?ETDROOT¼ehost-live&ETDID¼74715&ETDSTRK¼1.

[23] Wilkinson JM. Moral distress: a labor and delivery Nurse’s experience. J Obstet Gynecol Neonatal Nurs [Internet] 1989 Nov 1;18(6):513–9. Available from: https://doi.org/10.1111/j.1552-6909.1989.tb05033.x.

[24] Who we are [Internet]. American Association of Nurse Anesthetists. Available from: https://www.aana.com/about-us/who-we-are.

[25] Raines M. Psychological variables in nurses’ ethical decision making: the relationships among moral reasoning, coping styles and ethics stress 1995;55:7–8:2646.

[26] Cassells J, Gaul A. An ethical assessment framework for nursing practice. Md Nurse [Internet] 1998;17:9–12. Available from: http://www.marylandn.org/displaycommon.cfm?an¼15&flpage¼16&subarticlenbr¼2.

[27] McAndrew NS, Leske JS, Garcia A. Influence of moral distress on the professional practice environment during prognostic conflict in critical care. J Trauma Nurs [Internet] 2011;18(4). Available from: http://journals.lww.com/journaloftraumanursing/Fulltext/2011/10000/Influence_of_Moral_Distress_on_the_Professional.7.aspx.

[28] Fenton M. Identification of the skilled performance of master’s prepared nurses as a method of curriculum planning. In: From novice to expert: Excellence and power in clinical nursing practice. Commerative. Cliffs: Prentice-Hall; 2001. p. 262–74.

[29] Hamric AB, Davis W, MD C. Moral distress in health professional: what is it and what can we do about it? the Pharos winter.2006;69:16–23. Available from: http://www.industrycortex.com/webpages/results/alpha-omega-alpha-national-honor-medical-society.

[30] Project overview [Internet], Quality and Safety education for nurses (QSEN). Available from: http://qsen.org/about-qsen/project-overview/.

[31] Grady C, Danis M, Boehrics C. Response to peer commentary on “does ethics education influence the moral action of practicing nurses and social Workers” 2008;8(4):10–2.

[32] Beachamp TL, Childress JF. Principles of biomedical ethics, fourth ed. fourth ed. New York: Oxford University Press.