Addressing Moral Distress in Critical Care Nurses: A Systemized Literature Review of Intervention Studies

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***Background**: The literature on moral distress highlights the need for hospitals and healthcare organizations to improve the work environment in critical care. However, only few studies delve into the types of intervention programs and administrative processes that can be put into effect to help nurses effectively deal with moral distress. **Aim**: The aim of this study was to systematically synthesize evidence from published studies of interventions that address moral distress in critical care nurses. The attributes, measures, and outcomes of published interventions were described. **Methods**: Systemized literature review based on searches in four biomedical sciences databases (CINAHL, MEDLINE, COCHRANE, and SCOPUS). The Cochrane Collaboration's tool was employed for risk of bias. Eligibility criteria included published full-text articles exploring any type of intervention for critical care nurses' moral distress. **Results**: Based on the selection criteria, seven studies were included in the review (two quasi-experimental, two randomized clinical trials, three mixed method). The majority of studies exhibited high risk of bias. Only two studies had moderate risk of bias. The most common type of interventions were workshops. **Conclusion**: We identified a small number of overall low-quality intervention studies, which provided weak evidence on the effectiveness of workshops for moral distress. Based on the indications for potentially large effect size of workshops, more well-designed studies are needed in order to elucidate the characteristics, content, and duration of effective workshops for moral distress. The results of this review can inform future efforts to develop and test intervention strategies for moral distress among intensive care unit (ICU) nurses.*

Keywords: moral distress; critical illness; nurse retention; intensive care units; critical care units; ethics; intervention; workshop

In the complex and ever-changing healthcare environment, the development and retention of qualified and expert nurse clinicians is extremely important. As nurses experience progressive advancement in their career; it is essential to acknowledge their abilities and alleviate the impact of conditions that may adversely impact their contributions to patients' outcomes. An atmosphere that stimulates professional growth and development can have expansive influence for nurses, patients, families, and hospital administrators. Recruitment and retention of proficient, skilled, and experienced nurses is a high priority for nursing leaders as evidence demonstrates a positive association between patients' outcomes and retention

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of experienced nurses (Aiken, Clarke, Sloane, Sochalski, & Siber, 2002). The demands of complex technological and advanced interpersonal skills in combination with often low autonomy and control over clinical practice render critical care nurses prone to moral distress (MD; Aiken et al., 2002). Day in and day out critical care nurses deal with a high level of stress in their jobs.

MD is a term that was coined by Andrew Jameton (1984), "moral distress arises when one knows the right thing to do, but institutional constraints make it nearly impossible to pursue the right course of action" (p. 6). MD in nursing, is defined as an emotional state that comes from a situation when a nurse feels that the ethically correct action to take is different from what he or she is tasked with doing (McAndrew, Leske, & Schroeter, 2016). MD can affect all people in healthcare with feelings of frustration, helplessness, and powerlessness. MD appears to have a complex multifactorial causality. By providing strategies, either at the individual, group, or organizational level, or combinations, to decrease the effects of MD. We hope to retain critical care nurses so that they will not leave the profession, and, thus, deprive the healthcare system from their invaluable human capital (Covell & Sidani, 2013). Within the critical care context, "group" is defined as the intensive (critical) care unit.

With that in mind, nursing management and hospital administration are in a unique position to provide support for staff, thereby transforming the care milieu. This may minimize the prevalence and impact of MD on critical care nurses and improve the outcomes of patients and their families. A review (McAndrew et al., 2016) identified two interventional studies addressing MD in critical care nursing. Both studies (Leggett, Wasson, Sinacore, & Gamelli, 2013; Molazem, Tavakol, Sharif, Keshavarzi, & Ghadakpour, 2013) employed educational interventions and yielded discrepant results. This gap in the literature provided the motivation to search for more current studies.

PURPOSE

The purpose of this study was to synthesize evidence of published studies of interventions to address MD in critical care nurses. The attributes, measures, and outcomes of published interventions were described. The overarching research question guiding this review was: "What types of interventions are effective in preventing and mitigating MD in critical care nurses?"

METHODS

Protocol

A systemized literature review was conducted directed by a protocol based on the Cochrane guidelines for systematic reviews (Higgins & Green, 2008). Reporting was guided by the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) statement (Moher et al., 2009). The review protocol was formulated based on the Cochrane collaboration guidance.

Eligibility Criteria

Reports of interventional studies at the individual, unit, and organizational levels were included. Mixed method studies which included an experimental or quasi-experimental phase were also included. Review and opinion articles, as well as non-interventional studies were excluded. We did not set any language or chronological limitations in order to increase retrieval of potential studies. Specific eligibility criteria were formulated following a preliminary screening of articles. Potential interventions included any interventions implemented with the purpose to prevent or decrease MD. Intensive and critical care settings included any types of critical care unit (i.e., adult, pediatric, neonate) and specialty (i.e., general, surgical, cardiac, mixed, neurological, burn, trauma etc.). Studies addressing nurses employed in prehospital, emergency, and post-anesthesia care (PACU), and other hospital inpatient units and settings were excluded. After the literature search was conducted, the articles were subjected to an initial screen.

Outcomes

Published intervention studies either experimental or quasi-experimental, including mixed method studies with an intervention component, reporting primary data on a number of relevant outcomes were included. Targeted outcomes of the interventions included nurses' MD levels and incidence, retention, absenteeism, professional satisfaction, psychological morbidity, self-efficacy, ethical climate. Qualitative themes emerging from mixed methods studies were extracted and were taken into account in the discussion of outcomes.

Information Sources, Search, and Study Selection

Electronic literature searches based on predefined search terms were conducted in the following databases: CINAHL, Medline, Cochrane and Scopus. Search strategies included combinations of the following keywords: "moral distress" AND "critical care" or "intensive care" or icu or picu or nicu or "critical* ill*" AND intervention* or minimiz* or minimis* or decreas* or reduc* or treat* or prevent* or therap* or cope or coping or reliev* or relief or manag* or counsel* or resilien* or support* or hardiness or overcom* or resilien* or trial or pilot (Appendix). A health sciences librarian was consulted to help with focused literature searches.

Data Extraction

Data were systematically extracted by two investigators (SD, EP) based on a specially constructed form, including purpose, country, sample characteristics, participants, specifics of intervention, design, experimental groups, instruments, analyses, and measured outcomes.

Quality Assessment and Risk of Bias of Individual Studies

Quality appraisal was conducted by two investigators (SD, EP) the Cochrane Collaboration's tool to assess the validity of the identified studies. The tool includes six domains of bias: selection bias, performance bias, detection bias, attrition bias, reporting bias, and other bias (Higgins, Altman, & Sterne, 2011). Due to lack of registered protocols, it was not possible to assess publication bias.

RESULTS

In total, 1368 publications were retrieved from databases, out of which, 18 were assessed for eligibility. Upon applying the pre-defined eligibility criteria, seven articles were identified as eligible to be included in this review. The study selection process is outlined in Figure 1. A total of 289 critical care nurses (with 160 nurses in the intervention group and 129 in the control group) were involved in the identified studies.

Study Characteristics

The characteristics of the studies are summarized in Table 1. All of the studies were single-centered, and samples consisted mostly of female nurses within a single intensive care unit (ICU). The sample consisted of two randomized controlled studies using convenience sampling (Abbasi, Ghafari, Shahriari, & Shahgholian, 2019; Molazem et al., 2013); three mixed-methods studies (Allen & Butler, 2016; Hamric & Epstein, 2017; Leggett et al., 2013); and two pre- and post-test quasi-experimental designs (Beumer, 2008; & Browning & Cruz, 2018). Of the mixed method studies, one reported a practice development evaluation with a pre- and post-test design without control group (Hamric & Epstein, 2017); one study employed an initial cross-sectional descriptive followed by a mixed-methods design using focus group interviews, interventions, and pre- and post-test (Allen & Butler, 2016), and one study used grounded theory analysis of interview data in addition to a quasi-experimental design (Leggett et al., 2013).

Outcome Measures

The most common measured outcome was based on the Moral Distress Scale-Revised (MDS-R) tool to measure levels of MD (n = 5). The MDS-R is based on the Moral Distress Scale (MDS) first used by Jameton in 1984. Its latest revision by Hamric (2012) consists of 21 items measured

TABLE 1. Summary of Studies on Interventions to Mitigate MD

Authors (Year), Country	Purpose of Study	Subject Size and Characteristics	Study Design and Method	Instruments/ Tools Used and Description of Intervention	Substantial Findings and Identified Limitations
1. Browning and Cruz (2018) United States	To develop and test the effects of a social worker-facilitated protocol called Reflective Debriefing being used as an intervention to mitigate MD	Convenience sampling of nurses Control group: $N = 30$ Intervention group: $N = 6$	Pre- and post-test quasi experimental design	**Intervention:** Reflective Debriefing intervention (45-60 minutes) once a month for 6 months Both groups filled out a demographic questionnaire Control group: Completed the MDS-R at the start of the study and again 6 months later Intervention group: Pre-intervention MDS-R was completed. Post-intervention MDS-R was completed in addition a post-intervention survey	**Findings: MDS-R** • Participants felt the biggest benefit of the intervention was the feeling empowerment to confront colleagues when they felt false hope was given. **Reflective Debriefing Sessions** • Themes found during the debriefing were non-beneficial treatment; feelings of powerlessness; conflict in physician vs nursing values; death, suffering and end-of-life decision making; poor nurse/physician communication; and dealing with families. • After 6 months of debriefings, significant difference between the MD scores of the control group ($n = 23$, $M = 42.87$, $SD = 55.73$) and the experimental group ($n = 19$, $M = 96.50$, $SD = 51.26$), ($T(40.86) = -3.29$; $p = .002$). • Factors contributing to change in scores were: Numbers of sessions attended ($\beta = .74$, $t(8) = 2.91$, $p = .02$); describing experience of dilemma ($\beta = -1.13$, $t(8) = -2.65$, $p = .03$); understanding how MD impacts work ($\beta = 1.194$, $t(8) = 2.893$, $p = .02$); and constructive confrontation ($\beta = -1.305$, $t(8) = -3.35$, $p = .01$) **Limitations:** • Small sample size • Single-center study

(*Continued*)

TABLE 1. Summary of Studies on Interventions to Mitigate MD *(Continued)*

Authors (Year), Country	Purpose of Study	Subject Size and Characteristics	Study Design and Method	Instruments/ Tools Used and Description of Intervention	Substantial Findings and Identified Limitations
2. Abbasi et al. (2019) Iran	To assess if a moral empowerment program would diminish the effects of MD in nurses working in ICUs.	*N* = 60 ICU nurses randomly assigned into two groups of 30 each.	Randomized clinical trial using a convenience sampling	**Intervention:** 2-day empowerment workshop including definition of MD, consequences, training strategies, enforcement of strategies and pamphlets. Intervention group: 2-day workshop (6 hours/day) following the Alvita K. Nathaniel's Theory of Moral Reckoning in Nursing Control group: Received pamphlet that outlined the symptoms of MD and its complications in a 2-hour session **Instruments:** A demographic questionnaire and the MDS-R, pre-intervention, at 2-week and 1-month post-intervention.	**Findings: Baseline measures** • The distribution of how to tolerate MD, thinking about changing jobs or leaving it because of pressures of MD, and current willingness to leave a job due to MD, no significant difference was observed between the 2 groups before the intervention ($p > 0.05$) **Mean scores of MDS-R across groups** • Before intervention: No difference in intervention group vs control group: 4.05 vs 4.12; $p = 0.91$ • 2-week post-intervention: 3.38 vs 4.23; $p = 0.18$ • 1-month post-intervention: 2.64 vs 4.04; $p = 0.03$ **Pre-, post-intervention change in MDS-R** • Compared to pre-intervention • 2-week post-intervention: −0.67 vs 0.11; $p = 0.34$ • 1-month post-intervention: −1.41 vs −0.08; $p = 0.04$ **Limitations:** • Predominantly female and married demographic of sample • implementation of the empowerment program in a 2-day workshop without pursuing its impact in a longer period of time.

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TABLE 1. Summary of Studies on Interventions to Mitigate MD *(Continued)*

Authors (Year), Country	Purpose of Study	Subject Size and Characteristics	Study Design and Method	Instruments/ Tools Used and Description of Intervention	Substantial Findings and Identified Limitations
3. Hamric and Epstein (2017) United States	To assess if a Moral Distress Consultation Service (MDSC) can mitigate and address moral distress.	59 MDSC consults on 25 different units in a healthcare system Virginia (between 2006 and 2016).	Mixed methods: Practice development evaluation pre- and post-test design without control group	**Intervention**: Moral distress consultation with trained facilitators. Consults were initiated by unit managers or advanced nurse practitioners who recognized staff distress. **Instruments**: Initial (2006–2014) 3-month post-consultation interview After 2015 – pre- and post-intervention measurement of MD (Moral Distress Thermometer by Wocial and Weaver 2013) in addition to interviews with consult attendees.	**Findings:** Themes emerged from the data collected during the interviews. These themes are: • Acknowledgement of staff concerns • Staff empowerment to "speak up" in clinical situations increased after the consultation • Staff engagement increased after consultation with unit- and patient-specific issues • Improved team collaboration after consultation • Unit or organizational change as a result of having consultations **Statistical Findings** • Interview data was obtained for 23/31 consults (74%) • 83% of the interviewed felt that the consultations led to resolution of key problems and/or changes in staff or team behaviors or organizational processes **Limitations:** • No inferential statistical analysis • Program was slow to start • Training of the consultants is a long process that requires buy-in from administrators • Consults are time intensive • Creating an evaluation of the services provided • In some cases, increase in tension

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TABLE 1. Summary of Studies on Interventions to Mitigate MD *(Continued)*

Authors (Year), Country	Purpose of Study	Subject Size and Characteristics	Study Design and Method	Instruments/ Tools Used and Description of Intervention	Substantial Findings and Identified Limitations
4. Allen and Butler (2016) United States	To implement strategies that will reduce MD to improve job satisfaction and retention.	Phase 1: Adults *N* = 12 Pediatric *N* = 7 Phase 2: Adult *N* = 2 Pediatric *N* = 2	Phase 1: cross-sectional descriptive design Phase 2: mixed-method design: focus group interviews, interventions, and pre- and post-test.	**Intervention:** 2-hour education blended-learning training Phase 1: self-reported questionnaires using HECS and MDS-R Phase 2: focus group interviews (lasting 2 hours), 3-month follow-up using MDS-R and job satisfaction question.	**Findings: Phase 1: MDS-R**3 • most common causes of MD in both groups were futile care, witnessing healthcare providers giving "false hope", and continuing to care for hopelessly ill patients when no one would make a decision to withdraw care • 33% reported that MD does affect their job satisfaction and 47% were currently considering leaving their position • **Phase 2:** No inferential statistics were performed due to small sample for pre- and post-intervention comparisons **Limitations:** • Very small sample size at phase two • No meaningful comparisons possible

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TABLE 1. Summary of Studies on Interventions to Mitigate MD *(Continued)*

Authors (Year), Country	Purpose of Study	Subject Size and Characteristics	Study Design and Method	Instruments/ Tools Used and Description of Intervention	Substantial Findings and Identified Limitations
5. Leggett et al. (2013) United States	To assess if a workshop will help to decrease MD felt by burn ICU nurses.	*N* = 13 RNs from one burn ICU randomized into two groups Group A: *N* = 6 Group B: *N* = 7	Mixed methods: Grounded theory analysis of interview data to inform the intervention and quasi-experimental using a separate sample pre- and post-test design	**Intervention**: 60-minute session per week for 4 weeks educational intervention based on the literature and key informant interviews. Group A: Completed an MDS-R and SE Scale prior to a 4-week intervention involving a weekly session (60 minutes); participants were also asked to complete a written evaluation after each session. Group B: Completed both scales post-intervention involving a 4-week intervention involving a weekly session (60 minutes); participants were also asked to complete a written evaluation after each session. Both groups were re-administered the MDS-R and SE scales 6-week post-intervention; Data was analyzed used grounded theory and constant comparison methods	**Findings:** • 29% of the BICU staff completed the study • No difference between the groups regarding race, religion, sex, race, or age • Group B had a median experience level of 13 years while Group A was at 3.5 years **MDS-R** • Group B had significantly higher MDS-R score than Group A after the intervention (92 vs 40.5; $p = 0.032$) • 6-week post-intervention MDS-R scores increased for Group A and decreased for Group B. (60.5 vs 69; $p = 0.775$) • Opportunity to debrief was found to be helpful overall **SE Scores** • Group B 34.5 vs Group A 34.5 ($p = 0.616$) • 6-week post-intervention scores for Group B 33 vs Group A 36.5 ($p = 0.114$) **Limitations:** • Small number of participants • Limited to a single burn center • Group B may have experienced MD but did not have a name for it • Group B study participants have a greater work experience

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TABLE 1. Summary of Studies on Interventions to Mitigate MD *(Continued)*

Authors (Year), Country	Purpose of Study	Subject Size and Characteristics	Study Design and Method	Instruments/ Tools Used and Description of Intervention	Substantial Findings and Identified Limitations
6. Molazem et al. (2013) Iran	To assess the effect of a "4A Model"-based educational intervention will have on the rate of MD in nurses working in CCUs.	Two randomly assigned groups Control group: *N* = 30 Intervention group: *N* = 30 Both groups were from the CCU of the Shiraz Heart Center	Randomized control trial with pre- and post-intervention measurements using a convenience sampling	**Intervention:** Educational workshop held in two 4-hour sessions during 2 consecutive weeks. Demographic questionnaire, MDS (at 1- and 2-month post-intervention)	**Findings: MDS** • **Pre-intervention:** high level of MD among all the participants of the study; MD score ranged from 2.30 –7.50; mean MD was 4.57 +/– 1.03/7 for all participants • The intervention group's MD mean score was 4.44 +/– 1.24 pre-intervention decreased to 3.36 +/– 0.996 and 3.048 +/– 1.25 1- and 2-month post-intervention respectively • The control group's MD mean score was 4.712 +/– 1.048 pre-intervention decreased to 5.275 +/– 0.946 and 5.183 +/– 1.153 1- and 2-month post-intervention respectively • Significant differences were noted between the control and intervention groups ($p < 0.001$) and within the 2 groups ($p < 0.001$) • Significant differences were noted between the control and intervention groups 1- and 2-month post-intervention. ($p < 0.001$) **Limitations:** • Predominately female participants with only 2 males that were both enrolled in the intervention group • Single-center • Small sample size • Researchers did not have control over the exchange of information between the two groups as the study was conducted on both groups together

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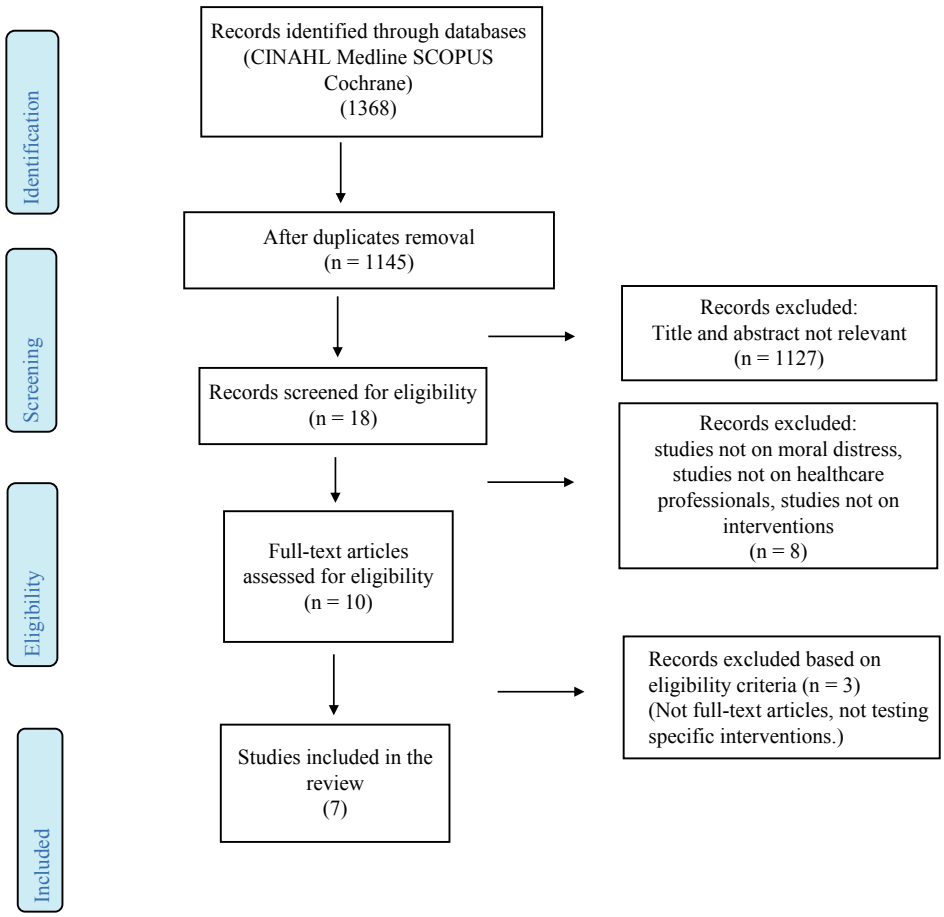
TABLE 1. Summary of Studies on Interventions to Mitigate MD *(Continued)*

Authors (Year), Country	Purpose of Study	Subject Size and Characteristics	Study Design and Method	Instruments/ Tools Used and Description of Intervention	Substantial Findings and Identified Limitations
7. Beumer (2008) United States	To assess if a workshop that helps staff identify and deal with MD will decrease the prevalence of moral distress in a medical/-surgical ICU.	Intervention group: *N* = 25 ICU nurses Control group: *N* = 13 ICU float pool nurses	Quasi-experimental with pre-post-test with non-equivalent groups.	**Intervention**: A total of five workshops were given to the regularly scheduled RN staff over the course of 4 weeks. Workshops were based on AACN's 4 As program. **Instruments**: Brief Moral Distress Survey based on Corley's Moral Distress Scale. Survey was given to each nurse at the beginning of each workshop to rate their level of MD. An identical survey was given to the same staff 7–10 weeks later. Intervention group: five workshops (2 hours each) were given to staff over 4 weeks. Control group: Did not attend the workshops	**Findings:** 46% of the control group reported the presence of adequate resources to cope • No statistically significant changes in; empowerment to speak up, perception that their opinion was valued, advocacy. • Improvement in perception of providing patient care in harmony with their values. • The perception of advocacy for the patient increased from the preworkshop (8%) to the postworkshop (29%) surveys in the strongly agree category. The control group (23%) also strongly agreed with results similar to those of the postworkshop group. • Decrease in distancing self from the critically ill patient in the pre-workshop (54%) to postworkshop (28%) groups, whereas 24% of the control group report distancing self from patient. • The study postulated the cynical feelings of 75% pre-workshop dropping to 28% post-workshop contributed to nursing retention **Limitations:** • The MD questionnaire used was not tested for validity and reliability • Sample size was small • Non-probabilistically equivalent control group • Time commitment needed for the workshop was great

Note. AACN = American Association of Critical Care; BICU = burn intensive care unit; CCU = cardiac care unit; DRGs = diagnosis related groups; ICUs = intensive care units; HECS = Hospital Ethical Climate Survey; MDS = Moral Distress Scale; MDS-R = Moral Distress Scale-Revised; MICU = medical intensive care unit; MD = moral distress; MDSC = Moral Distress Consultation Service; TCU = transitional care unit; ANOVA: = repeated measures analysis of variance; PES-NTI: Practice Environment Scare of the Nursing Work Index; ProQOL: Professional Quality of Life Scale; RN = registered nurse; SE = self-efficacy; *SD* = standard deviation.

Figure 1. Prisma flow diagram.



using a 5-point Likert-type scale and three questions. The questions include occurrence of MD, history of leaving one's job or thinking about it because of the pressures of MD, and current tendency for leaving one's job because of MD. The MDS was used as a measure of MD in one of the articles. The other two studies used an invalidated MD tool that was tailored specifically to their facility. Other outcomes that were included in the studies are the Moral Distress Thermometer, Self-Efficacy Scale (SE), Hospital Ethical Climate Survey (HECS), MDS, Moral Distress Consultation Service, Professional Quality of Life Scale (ProQOL), and Practice Environment Score of the Nursing Work Index (PES-NTI).

Theoretical Framework

There were four publications that made mention of a theoretical framework. The publications by Allen and Butler (2016) and Abbasi et al. (2019) both used Nathaniel's Theory of Moral Reckoning that is based in grounded theory. Browning and Cruz (2018) used a framework based on the 3D Model to develop their protocol for Reflective Debriefing. The 3D Model is generally used with students for educational purposes, but it has been adapted for professional reflection on actual clinical experiences. Lastly, Molazem et al. (2013) used the 4A Model that was presented by the American Association of Critical Care Nursing in 2004.

Interventions

The majority of the studies employed a workshop to teach the ICU nurses how to identify MD and to provide tools to cope with, or diminish MD. The only exception was the study by Hamric and Epstein (2017), who evaluated the efficacy of a Moral Distress Consultation Service that provided support on an on-call basis to a single hospital when they were consulted. The specifics of the intervention provided in each study are presented in Table 1. The workshops were held over a variety of timeframes. Abbasi et al. (2019), conducted a workshop held over 2 days for 6 hours/-day. Beumer (2008) conducted five workshops that were 2 hours each, over 4 weeks. Leggett et al. (2013) hosted a 4-week intervention that consisted of a weekly 60-minute session. Allen and Butler (2016) had a 2-hour education blended learning seminar, as well as a focus group interview. The study by Molazem et al. (2013) employed two educational workshops that were held in 4-hour sessions that were presented over 2 consecutive weeks. Lastly, Browning and Cruz (2018) held a Reflective Debriefing once a month over 6 months.

Quality Assessment

All of the identified studies had small sample sizes that likely limited statistical power. The demographics of samples could also be a source of potential bias (such as gender and age bias). Main limitations based on the Cochrane Collaboration's tool for assessing risk of bias were lack of randomization, blinding, and incomplete outcome data reporting (Table 2). Blinding was reported in only one study (Allen & Butler, 2016); the rest of the studies did not mention or report blinding. Moreover, no inferential statistics were used in two studies, either due to the very small sample size (Allen & Butler, 2016) or the scope of the study (Hamric & Epstein, 2017).

Effectiveness of Interventions

The identified studies provide weak evidence on the effectiveness of the interventions explored to decrease the level or incidence of MD.

Moral Distress Scores. Overall, five studies assessed MD scores. There were four studies that used the MDS-R. MDS-R was administered pre- and post-intervention (Allen & Butler, 2016; Browning & Cruz, 2018; Leggett et al., 2013). Two studies (Abbasi et al., 2019; Browning & Cruz, 2018) showed improvements in MDS-R scores post-intervention compared to pre-intervention scores; whereas, in one study no inferential statistics were performed due to very small sample size (n = 2; Allen & Butler, 2016). In the Leggett et al. (2013) study, there was some evidence of a test sensitization effect, since MDS-R scores seemed to increase for the group that completed MDSR prior to the 4-week intervention. However, the very small sample size and absence of a control group who did not receive the intervention preclude any useful conclusions.

The study by Molazem et al. (2013), used the Moral Distress Score (MDS) to determine the level of MD among the participants. The workshop based on the "4A Model," appeared to account for a decrease in MD scores ($p < 0.001$).

Moreover, the two randomized controlled trials that had moderate risk of bias (Abbasi et al., 2019; Molazem et al., 2013) provided some evidence of longitudinal and sustained effects of a 2-day workshop on MD, as improvements were statistically significant at 1-month (Abbasi et al., 2019; Molazem et al., 2013), and 2- month post-intervention (Molazem et al., 2013), but not 2-week post-intervention (Abbasi et al., 2019). Additionally, the data provide some evidence of potentially large size of effects of interventions in decreasing MD scores, as studies with approximately 30 participants per group yielded statistically significant findings (Abbasi et al., 2019, Browning & Cruz, 2018; Molazem et al., 2013).

Intent to Leave. There were three studies that addressed having left a position in the past or intention to leave a position as a result of MD (Abbasi et al., 2019; Allen & Butler,

TABLE 2. Assessment for Risk of Bias the Cochrane Collaboration's Tool Assessing Risk of Bias

Studies	Sequence Generation	Allocation Concealment	Blinding			Incomplete Outcome Data	Selective Outcome Reporting	Other Sources of Bias	Overall Risk of Bias
			Participants	Personnel	Outcome assessors				
1. Browning and Cruz (2018) United States	?	?	-	-	?	+	+	_	High
2. Abbasi et al. (2019) Iran	+	-	—	-	?	+	+	?	Moderate
3. Hamric and Epstein (2017) United States	-	-	-	-	-	+	+	-	Very high
4. Allen and Butler (2016) United States	-	-	-	-	-	?	?	-	Very high
5. Leggett et al. (2013)	+	?	-	-	?	?	?	-	High
6. Molazem et al. (2013) Iran	+	?	-	?	?	+	+	+	Moderate
7. Beumer (2008) United States	-	-	-	-	-	-	-	-	Very high

Note. + = Low risk of bias, ? = risk of bias unclear, — = high risk of bias.

2016; Leggett et al., 2013). In the Abbasi et al. (2019) study, there were no significant differences between the control group and the intervention group on intention to leave. The authors noted that in this study that took place in Iran, there was a job crisis and employment rates were low, potentially contributing to these findings. Leggett et al. (2013) noted that two nurses who had previously considered leaving a position due to MDdid not leave, and that there were none currently thinking about leaving their position.

Other Outcomes. With regard to the rest of outcome measures that were examined, evidence was very scant. Regarding job satisfaction, evidence is of low quality. In the 2016 study by Allen and Butler, 33% of the participants reported that MD did affect their job satisfaction, and 47% were currently considering leaving their position, but no inferential statistics were pursued. Only one quasi-experimental study evaluated effects on self-efficacy before and after a workshop, and revealed no statistically significant effects (Leggett et al., 2013).

DISCUSSION

The phenomenon of MD has been described in the literature since 1984 (Jameton, 1984). Providing care and treatment to patients in critical care areas can pose huge emotional demands on those who perform these tasks. Critical care nurses are dedicated people who perform some of the most emotionally difficult work within our hospitals. There are many studies that confirm that critical care nurses play host to a high level of MD, often without the knowledge and awareness of its devastating effects on their lives (McAndrew et al., 2016). Day in, day out, workers struggle to function in caregiving environments that constantly present heart-wrenching, emotional challenges. When critical care nurses are given the tools to first identify MD, then to develop ways to mitigate the effects both on the individual and the organization level, great benefits to patients are created, by being provided with the best possible care.

Main findings of this review included: (a) a small number of studies that explored the effectiveness of interventions to combat MD, (b) many methodological limitations and low quality of evidence among the identified studies that were predominantly quasi-experimental, and (c) moderate level of evidence for the effectiveness of interventions in decreasing MD, with relatively large effect size and possible sustained affects up to 2-month post-intervention. The studies by Abbasi et al. (2019), Allen and Butler (2016), Beumer (2008), Browning and Cruz (2018), Hamric and Epstein (2017), Leggett et al. (2013) and Molazem et al. (2013) all showed that as nurses are made aware of MD and its signs and symptoms, in addition to being given a safe forum to express their thoughts in regard to MD, MDSs are likely to decrease. Subsequently, it has been found that by attending workshops on moral distress most participants benefitted from developing confidence, increased job satisfaction, and communication skills (Beumer, 2008; Hamric & Epstein, 2017; Leggett et al., 2013). Additionally, overall, participants indicated that MD interventions were helpful in promoting a better work environment by offering a safe place where nurses can reflect on their experiences and demands they face at work (Allen & Butler, 2016). Moreover, there was no mention of adverse effects, with the exception of sometimes re-traumatizing the nurses by bringing up past issues (Hamric & Epstein, 2017). When this happens the only hope of changing this culture is through education and training such as the workshops and the Moral Distress Consultation Service detailed in the studies (Beumer, 2008; Hamric & Epstein, 2017). Therefore, although due to the heterogeneity and methodological shortcomings of the included studies no firm conclusions can be drawn, it can be noted that MD interventions appear to have a number of positive impacts for critical care nurses, especially with regard to better communication and retention (Beumer, 2008).

Implications for Clinical Practice

MD is very common and has a grave impact on critical care nurses, affecting their psychological health, quality of care, retention, and quality of interpersonal interactions. It has been associated with decreased job satisfaction, burnout, and psychological distress (Hiler et al., 2018). The importance of hospital administration to provide critical care nurses with viable interventions to cope with MD and mental health issues is an essential step in improving the quality and safety of nursing care, and critically ill patients' outcomes. A high priority recommendation is to have nursing leadership provide formal supports such as organized debriefings along with providing a safe place for peer support and staff education with focused content on identifying MD and coping strategies. By providing supports at both the organizational, unit, and individual level for critical care nurses we will ensure that they are empowered to deal with the circumstances that precipitate MD, and that critical care practice is transformed resulting in improved outcomes for patients, families, and care providers (Abbasi et al., 2019; Molazem et al., 2013). The studies included in this review provide support that this can be potentially achieved by providing workshops designed to shed light upon the signs and symptoms of MD, and giving opportunities for debriefing and discussions following difficult encounters. Responses to stressors will be influenced by their conscious appraisal of subjective perceptions of the work environment. Although, a few studies have explored the effect of mindfulness in mitigating nurses' stress (Pipe et al., 2009), mindfulness approaches have not been tested for MD.

The evidence implies that when MD remains unchecked, the potential of nurses leaving the bedside increases (Browning & Cruz, 2018). When administration takes a more proactive approach to increase retention and optimize training and education in regard to MD, they will see an increase in favorable outcomes that will benefit everyone.

LIMITATIONS

This review was based exclusively on full-text published research articles, excluding abstracts, theses and non-published reports, which could have enriched the evidence. Additionally, our searches addressed biomedical literature predominantly, it is possible that pertinent evidence could be found in specialized databases for psychosocial sciences. The small number of studies to draw upon and the lack of well-designed trials limit the ability to draw conclusions.

CONCLUSIONS

This systemized review of evidence on the effects of interventions to prevent or mitigate MD, identified a small number of overall low-quality intervention studies and provided weak evidence of the effectiveness of workshops for the improvement of MD. No definitive results can be drawn owing to the large heterogeneity of interventions and several methodological limitations of the identified studies. Nonetheless, based on these findings and the indications for potentially large size of effects of workshops, more well-designed studies are needed to elucidate the characteristics, content, and duration of effective workshops for MD. The results of this review can inform future efforts to develop and test intervention strategies for MD among ICU nurses.

It is the hope that clinicians, administrators, educators, and researchers will initiate conversations, plan strategies, and curriculums and conduct more research toward creating effective ways to respond to situations that provoke MD within our hospitals. Nursing can play a pivotal role in providing leadership that demonstrates caring values and advocates for both patients and staff. Stress management as a traditional concept has focussed on individual approaches such as debriefing, counselling, employee assistance programs, and peer debriefing as ways to adapt to or cope with severe environmental stressors. It has become evident that critical care nurses need more than simple stress management techniques. We need to combine internal and external

resources in a cohesive way with individual characteristics to overcome severe stress in the work environment. It should also be said that the primary goal when dealing with MD should be to address the moral issues that cause the distress. It is then up to the healthcare providers involved to understand that there are many options when dealing with issues of life and death and to foster attitudes toward adopting resilient attitudes.

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Appendix: Search Strategy

CINAHL

"moral distress" or "moral stress" or "ethical distress" or "ethical stress" or "moral dilemma*" or "ethical dilemma*" or (MH "work environment") or (MH "stress, occupational") or (MH "burnout, professional") or (MH "job satisfaction") OR (MH "personnel retention") or (MH "personnel turnover") or TI((job or occupation* or work* or staff or personnel or employee*) and (satisf* or dissatisf* or stress* or distress* or environment* or climate or retention or retain or turnover) or "intention to leave" or burnout or "burn-out")

AND

"critical care" or "intensive care" or icu or picu or nicu or "critical* ill*"

AND

intervention* or strateg* or program* or minimiz* or minimis* or decreas* or reduc* or treat* or prevent* or therap* or cope or coping or reliev* or relief or manag* or counsel* or resilien* or support* or hardiness or overcom* or resilien* or empower*

AND

trial or pilot or random* or controls or controlled or "control group*" or "quasi-experimental" or "systematic review" or "scoping review" or "integrative review"

MEDLINE (EBSCO Version)

"moral distress" or "moral stress" or "ethical distress" or "ethical stress" or "moral dilemma*" or "ethical dilemma*" or (MH "Job Satisfaction") OR (MH "Occupational Stress+") OR (MH "Personnel Turnover") or TI((job or occupation* or work* or staff or personnel or employee*) and (satisf* or dissatisf* or stress* or distress* or environment* or climate or retention or retain or turnover) or "intention to leave" or burnout or "burn-out")

AND

"critical care" or "intensive care" or icu or picu or nicu or "critical* ill*"

AND

intervention* or strateg* or program* or minimiz* or minimis* or decreas* or reduc* or treat* or prevent* or therap* or cope or coping or reliev* or relief or manag* or counsel* or resilien* or support* or hardiness or overcom* or resilien* or empower*

AND

trial or pilot or random* or controls or controlled or "control group*" or "quasi-experimental" or "systematic review" or "scoping review" or "integrative review"

COCHRANE LIBRARY

#1 ("moral distress" or "moral stress" or "ethical distress" or "ethical stress" or "moral dilemma*" or "ethical dilemma*"):ti,ab,kw or [mh "Job Satisfaction"] OR [mh "Occupational Stress"] OR [mh "Personnel Turnover"] or ((job or occupation* or work* or staff or personnel or employee*) near/3 (satisf* or dissatisf* or stress* or distress* or environment* or climate or retention or retain or turnover) or "intention to leave" or burnout or "burn-out"):ti,ab,kw

#2 "critical care" or "intensive care" or icu or picu or nicu or "critical* ill*"

#3 #1 AND #2

SCOPUS

TITLE-ABS-KEY ("moral distress" OR "moral stress" OR "ethical distress" OR "ethical stress" OR "moral dilemma*" OR "ethical dilemma*" OR ((job OR occupation* OR work* OR staff OR personnel OR employee*) W/3 (satisf* OR dissatisf* OR stress* OR distress* OR environment* OR climate OR retention OR retain OR turnover)) OR "intention to leave" OR burnout OR "burn-out") AND TITLE-ABS-KEY ("critical care" OR "intensive care" OR icu OR picu OR nicu OR "critical* ill*") AND TITLE-ABS-KEY (intervention* OR strateg* OR program* AND minimiz* OR minimis* OR decreas* OR reduc* OR treat* OR prevent* OR therap* OR cope OR coping OR reliev* OR relief OR manag* OR counsel* OR resilien* OR support* OR hardiness OR overcom* OR resilien* or empower*) AND TITLE-ABS-KEY (trial or pilot or random* or controls or controlled or "control group*" or "quasi-experimental" or "systematic review" or "scoping review" or "integrative review")