Registered nurses' and nursing students' perspectives on moral distress and its effects: a mixed-methods systematic review and thematic synthesis

Running title: Moral distress among nurses

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Ethical approval

Ethical approval was not required for this mixed-methods systematic review.

Patient consent

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Conflict of Interest

Professor Richard Kyle was employed by Public Health Wales when the review was commissioned.

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Contribution

TW, RK and CB contributed to the conceptualization and design of the study. ET, TW, AS, DW, RH, RP were responsible for retrieving and assessing studies for inclusion in the review. TW and BJ were responsible for thematic synthesis. TW and BJ drafted the first version of the manuscript. All authors critically re-viewed the manuscript and have read and approved the final manuscript.

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ABSTRACT

Aim

To examine registered nurses' and nursing students' perspectives on factors contributing to moral distress and the effects on their health, wellbeing and professional and career intentions.

Design

Joanna Briggs Institute mixed-methods systematic review and thematic synthesis. Registered in Prospero (Redacted).

Methods

Five databases were searched on May 5 2021 for studies published in English since January 2010. Methodological quality assessment was conducted in parallel with data extraction.

Results

Searches yielded 2,343 hits. Seventy-seven papers were included. Most were correlational design and used convenience sampling. Studies were mainly from North America and Asia and situated in intensive and critical care settings. There were common, consistent sources of moral distress across continents, specialities and settings. Factors related to perceived inability or failure to enact moral agency and responsibility in moral events at individual, team and structural levels generated distress. Moral distress had a negative effect on registered nurses health and psychological wellbeing.

No patient or public contribution to this systematic review

Key Words

Moral distress, Nursing workforce, Registered Nurses, Nursing Students, Mixed-methods, Systematic Review.

BACKGROUND

Global concern about the complex phenomenon of moral distress within nursing has been expressed for almost four decades. Morally challenging situations are common in healthcare and moral distress is not unique to nursing. However, experiencing moral distress is known to have profound personal and professional effects on individuals. It undermines integrity, functional competency and negatively impacts mood and intentions to remain in the workforce (Colville et al., 2019).

Initially coined by Jameton (1984), moral distress is an elusive concept which, in the context of nursing, evades conceptual clarity (Pauly et al., 2012, Johnstone and Hutchinson, 2015) and consensual definition (Morley et al., 2019, Deschenes et al., 2020). Indeed, Morley et al. (2019) found twenty moral distress definitions and identified five moral distress subtypes: moral constraint; moral conflict; moral tension; moral uncertainty and moral dilemmas (Morley et al., 2020a). For this review, moral distress was defined as an "umbrella concept that describes the psychological, emotional and physiological suffering that may be experienced when we act in ways that are inconsistent with deeply held ethical values, principles or moral commitments" (Mccarthy & Deady, 2008, p 1).

Nursing work is inherently demanding (Brojete et al., 2020). Higher rates of mental ill-health among nurses compared with the general working population have been identified (Kinman & Teoh, 2020; Martin et al., 2018). The risk of psychological morbidity among nurses is well documented (Chana et al., 2015; Chin et al., 2019; House of Commons, 2021; Melynk, 2020; Melynk et al., 2018). Evidence shows that nurses' stress is compounded by structural, organisational, workplace-based challenges, including excessive and intensive workloads, staff shortages, difficult working conditions, shift work, incivility, team conflict, quality of leadership and management practices (Hartin et al., 2020; Hartin et al., 2018; Lee &Kim, 2020; Tahghighi et al., 2017). The cumulative effect of repeated exposure to workplace stressors impacts on mental health (Stelnicki & Carleton, 2020), influencing staff turnover and decisions to leave the profession (Nursing and Midwifery Council, 2020; Royal College of Nursing, 2019),

thereby contributing to the global nursing workforce retention crisis. Sustaining and retaining a healthy, motivated, and appropriately supported nursing workforce is central to high quality, safe and effective care which optimises patient outcomes, reduces 'missed care' and preventable mortality, and meets population health needs (Aiken et al., 2014; Griffiths et al., 2018).

Moral distress is a key determinant of nurses' poor psychological and physical health. However, despite the ubiquity of morally challenging experiences in nursing practice, the influencing factors and effects of moral distress among nurses are poorly understood. This hampers the provision of appropriate organisational support, especially in the context of SARS-Cov-2 recovery, and the development of accessible interventions to mitigate the psychological effects of moral distress. To support and retain a healthy nursing workforce and inform planning for future public health emergencies, including pandemics, learning from the existing literature on moral distress with registered and student nurses before the SARS-CoV-2 pandemic is essential. This mixed-methods systematic review examines registered nurses' and nursing students' perspectives on factors contributing to moral distress and the effects on their health, wellbeing and professional and career intentions by answering the following review questions:

1. What factors contribute to moral distress among registered nurses and nursing students?
2. What are the effects of moral distress on their:
    a. health and wellbeing?
    b. professional and career intentions?

METHODS

The systematic review was informed by the Joanna Briggs Institute (JBI) mixed-methods systematic reviews methodology (MMSR) (Lizarondo et al., 2020) and registered in PROSPERO (CRD42021245362). The review is reported in accordance with the Preferred Reporting Items for Systematic Review and Meta-Analysis (PRISMA) guidelines (Page et al., 2021).

Inclusion and exclusion criteria

Primary qualitative, quantitative, and mixed methods research studies which focused on moral distress in Registered Nurses, nursing associates/apprentices/students working in healthcare settings and were published in English were included. Non-empirical, opinion pieces, theoretical and methodological papers, reviews and editorials were excluded. Research studies were excluded if they were based on secondary data analysis, conducted in neonatal and social care settings, reported on healthcare professionals' moral distress where data were pooled for analysis, or did not meet any of the four quality criteria during the quality appraisal process, as detailed below.

Search strategy, study selection and data extraction

The search strategy was developed and tested in collaboration with a specialist health service systematic review librarian (EG). On May 5th, 2021, one reviewer (ET) systematically searched the electronic databases MEDLINE, PsycINFO (via OvidSp), CINAHL (via EBSCO host), Embase (via Elsevier) and the Web of Science for studies published in English since 2010. This review was commissioned in the early stages of the SARS-CoV-2 pandemic. Given our timescales, the decision to run the searches between 2010 and 2021 was pragmatic, and taken in consultation with information specialists to ensure relative stability in the healthcare context within which nurses were working and experiencing moral distress. A combination of Medical Subject Headings (MeSH) search terms was used including moral*, distress, suffering, injury, residue, psychological distress, nurse, nurses. To enhance the sensitivity and refine the searches Boolean operators (OR and AND) were used. A detailed description of the search strategies used in each database is presented in the online supplementary material [number 1]. All hits were entered into EndNote and duplicates removed. Remaining hits were imported to Covidence SR management software. Additional duplicates were identified and removed.

All project team members were involved in the screening and selection process. Standardised systematic review methods (Centre for Reviews & Dissemination, 2009) were used. Firstly, two reviewers independently screened returned titles and abstracts, sifting these into a 'yes', 'no' or 'maybe' category. Where a definite decision based on title and abstract alone could not be made, the full text was retrieved and assessed. Secondly, full text of all potentially relevant abstracts were retrieved and independently assessed for inclusion by reviewers

against the purposively designed eligibility criteria. Uncertainties for both first and second level screening were resolved by the two reviewers. In the event of disagreement an independent reviewer would arbitrate. However, arbitration was not required. Reasons for exclusion at full text review were recorded.

Data were extracted systematically using an adapted JBI mixed-methods data extraction form and Covidence software. A second reviewer independently cross-checked all data extraction forms for accuracy, integrity and completeness. To establish concordance, a third reviewer independently moderated a sample (10%) of extracted data. Extracted data included the author(s), year and country of publication, study aim and design, setting, number and characteristics of participants, approaches to sampling, data collection, analysis and quality appraisal outcome. In preparation for analysis and to facilitate the comparison and contrast of study findings systematically and coherently, for each study a brief, textual, narrative summary reporting key findings relevant to the review questions was written.

Quality appraisal

Two reviewers independently assessed the quality of included studies using the Mixed Methods Appraisal Tool (MMAT) version 18 (Hong et al., 2018). The MMAT was constructed specifically for quality appraisal in mixed studies reviews (Hong et al., 2018; Pace et al., 2012). Each study was assigned a score based on the number of criteria met (25%—one criterion met; 100%—all criteria met). Studies were excluded if they met none of the quality criteria.

Data analysis and synthesis

Findings from qualitative, quantitative and mixed methods studies were synthesised thematically to address the review questions. The textual narrative summaries created during data extraction were aggregated and checked (TW). Guided by Thomas and Harden's (2008) approach to thematic synthesis, two researchers (TW, BJ) read and reread the aggregated textual summaries and corresponding papers. Initial, descriptive inductive codes were generated independently. Patterns within and between the studies were identified and following consultation with other team members for rigor.

RESULTS

Search results and overview of studies selected

Figure 1 shows a PRISMA flowchart of search results. Following first and second level screening, 77 papers (3.3%) were deemed suitable for inclusion.

[Please insert Figure 1 (PRISMA flowchart diagram) here]

Seventy-seven papers published between (2010 and 2021) were included: 42 quantitative, 29 qualitative and six mixed methods studies. A synopsis of study characteristics are provided in tables 1-3. Detailed summaries of these papers and the quality appraisal outcomes are provided in the online supplementary file [number 2].

[Please insert tables 1-3 here]

Study characteristics

All quantitative studies (table 1) were cross-sectional surveys and most used validated outcome measures, primarily Hamric et al.'s (2012) Moral Distress Scale -Revised (MSD-R) (n=), but also translated versions of the original English language MDS (Corley et al., 2001) or the MDS-R. Most qualitative studies (*n*= 29) (table 2) used a qualitative descriptive approach (*n*=18). Five studies used phenomenology, whilst other approaches included grounded theory (*n*=3), critical ethnography (*n*=1), narrative (*n*=1) and naturalistic enquiry (*n*=1). A synopsis of mixed methods studies (*n* =6) is presented in table 3.

Study populations

The majority of included studies (*n*=77) were conducted in North America (*n*=30)*:* United States[*n*=23] and Canada [*n*=7]; Asia: (*n*=26): Iran [*n*=18]; China; Israel; Jordan; South Korea; Philippines; Taiwan [*n*=2] and Thailand; Europe (*n*=9): Norway; Sweden, Ireland; Italy [*n*=3]; Cyprus; Germany and Lithuania. Other studies were from South America, specifically Brazil (*n*=5); Africa (*n*=5): Ethiopia; South Africa [*n*=2]; Uganda and Malawi and Australasia: New Zealand [*n*=2].

Most studies (*n*=62) focused on moral distress among nurses in hospital settings specifically: intensive care (*n*=14), critical care (*n*=8), emergency departments (*n*=7), haematology and oncology units (*n*= 5) and psychiatric units (*n*=6). Six studies were conducted in universities with nursing students.

Study quality

Eight of the 29 qualitative studies (28%) and seven of the 42 quantitative studies (17%) fulfilled all four MMAT quality criteria. None of the mixed methods studies fulfilled all MMAT quality criteria.

Thematic synthesis

Moral distress was intrinsically connected to nurses and nursing students' perceived inability to act ethically, appropriately and simultaneously preserve the nursing identity and epistemology of person-centred care and uphold core professional values, notably those relating to human dignity and advocacy (Alberto Fruet et al., 2019; Caram et al., 2019; Choe et al., 2015; Deady & McCarthy, 2010; de Sousa Vilela et al., 2021; Escolar Chua & Magpantay, 2019; Forozeiya et al., 2019; Harrowing & Mill, 2010; Hsun-Kuei et al., 2018; Krautscheid et al., 2017; Mehlis et al., 2018; Prompahakul et al., 2021; Ritchie et al., 2018; Robinson & Stinson, 2016; Silverman et al., 2021; Wojtowicz et al., 2014; Wolf et al., 2016). For the first review question, three synthesised findings reflected factors contributing to nurses' moral distress: *'What can we do?':* the pervading influence of individuals' characteristics; '*Nobody listens to you'*: relational dynamics and practices within intra and interprofessional teams and '*The system is broken'*: the effect of structural constraints.

Factors contributing to moral distress among nurses

'What can we do?': the pervading influence of individuals' characteristics

A sense of powerlessness to intervene regarding care, treatment and decision-making perceived as generating needless patient suffering and transgressing core professional values contributed to moral distress among registered nurses (Berhie et al., 2020; Crespo Drago et al., 2020; Deady & McCarthy, 2010; De Brasi et al., 2021; Harrowing & Mill, 2010; Ko et al., 2019, Langley et al., 2015; Nikbakht Nasrabadi et al., 2018; Prompahakul et al., 2021; Sauerland et al., 2014) and nursing students (Escolar Chua & Magpantay, 2019). This was invariably connected with interventions, treatment and care decisions perceived as futile (Asayesh et al., 2018; Browning, 2013; Choe et al., 2015; DeKeyser Ganz et al., 2013; Dodek et al., 2019; Dyo et al., 2016; Emmamally & Chiyangwa, 2020; Hiler et al., 2018; Hou et al., 2021;

Karanikola et al., 2014; Ko et al., 2019; Latimer et al., 2021; Rezaee et al., 2019; Robinson & Stinson, 2016; Silverman et al., 2021; Wiegand & Funk, 2012; Wilson et al. 2013), overly aggressive (Rezaee et al., 2019; Wiegand & Funk, 2012) and inappropriate or unnecessary (Asgari et al., 2019; Browning, 2013; Choe et al., 2015; Christodoulou-Fella et al., 2017; De Brasi et al., 2021; DeKeyser Ganz et al., 2013; De Sousa Vilela, et al., 2021; Fernandez-Parsons et al., 2013; Forozeiya et al., 2019; Ko et al., 2019; Laurs et al., 2020; Nikbakht Nasrabadi et al., 2018; Silverman et al., 2021) particularly, but not exclusively (Deady & McCarthy, 2010; De Sousa Vilela, et al., 2021; Rezaee et al., 2019; Wojtowicz et al., 2014), in the context of end-of-life care.

> *We're with the patients a lot more than the providers ... we see the futility a lot of the times, because we're like there's no way this person is going to make it out of here at the end., but the surgeons when they came in for ECMO, they're like keep going, keep going, keep going, keep going, never stop* (Silverman et al., 2021, p. 1147: United States, acute care)

Findings are mixed regarding how perceived professional autonomy to enact moral agency when faced with moral problems in practice connected with experiencing moral distress (Caram et al., 2019; Choe et al., 2015; Christodoulou-Fella et al., 2017; Crespo Drago et al., 2020; Dodek et al., 2019; Karanikola et al., 2014; Sarkoohijabalbarezi et al. 2017; Yeganeh et al. 2019). However, registered nurses' (Deady & McCarthy, 2010; Harorani et al. 2019; Hsun-Kuei et al., 2018; Ko et al., 2019; Pergert et al., 2019; Sauerland et al., 2014; Silverman et al., 2021; Varcoe et al. 2012) and nursing students' (Escolar Chua & Magpantay, 2019; Krautscheid et al., 2017; Renno et al., 2018) perceived lack of knowledge, self-competence and confidence in their ability to articulate concerns and fulfil their perceived moral responsibilities in ethically challenging situations generated moral distress (Deady & McCarthy, 2010; Escolar Chua & Magpantay, 2019; Harorani et al. 2019; Hsun-Kuei et al., 2018; Ko et al., 2019; Krautscheid et al., 2017; Pergert et al., 2019; Renno et al., 2018; Sauerland et al., 2014; Silverman et al., 2021; Varcoe et al. 2012).

While studies suggested that perceptions of moral distress might be influenced by sociodemographic factors, findings are conflicting and consistent correlation lacking. Some studies found no statistically significant correlation between age and perceived moral distress (Bayat et al., 2019; Dyo et al., 2016; Evanovich & Chan 2016; Karanikola et al., 2014; Latimer

et al., 2021; Mehlis et al., 2018; Prompahakul et al., 2021; Wilson et al., 2013). Others reported a significant, inverse correlation between age and moral distress (Abdolmaleki et al., 2019; Borhani et al., 2014; Christodoulou-Fella et al., 2017; DeKeyser Ganz et al., 2013; Emmamally & Chiyangwa, 2020; Hamaideh, 2014; Hou et al., 2021; Laurs et al., 2020; Woods et al., 2015). That is, younger nurses experienced greater moral distress. A positive correlation between age and perceived moral distress intensity has also been identified (Browning, 2013; Moaddaby et al., 2021; O'Connell 2015). Studies reporting the relationship between length of nursing service and perceived moral distress are inconsistent. Some studies (Alberto Fruet et al., 2019; Berhie et al., 2020; O'Connell 2015) reported positive, occasionally significant (Alberto Fruet et al., 2019; Berhie et al., 2020) correlations. Others reported no statistically significant relationship (Bayat et al., 2019; Dyo et al., 2016; Emmamally & Chiyangwa, 2020; Evanovich & Chan, 2016; Karanikola et al., 2014; Latimer et al., 2021; Mehlis et al., 2018; Prompahakul et al., 2021; Wilson et al., 2013). An inverse correlation was reported in four studies (Borhani et al., 2014; Christodoulou-Fella et al., 2017; Hamaideh, 2014; Latimer et al., 2021). Yet the correlation was significant in just one study (Borhani et al., 2014). Various studies indicated a relationship between gender and perceived moral distress and suggested male and female nurses experience different levels of moral distress (Berhie et al. 2020; Borhani et al., 2014; Christodoulou-Fella et al., 2017; Dyo et al., 2016; Emmamally & Chiyangwa, 2020; Rathert et al., 2016; Soleimani et al., 2019).

'Nobody listens': relational dynamics and practices within intra and interprofessional teams

In morally challenging situations where patients' dignity, outcomes and optimal care were threatened and patient suffering occurred, colleagues' perceived ineptitude and unprofessional or unethical behaviours generated moral conflict. When unresolved, this contributed to moral distress among registered nurses (Asgari et al., 2019; Atashzadeh Shorideh et al., 2012; Choe et al., 2015; Christodoulou-Fella et al., 2017; Emmamally & Chiyangwa, 2020; Hsun-Kuei et al., 2018; Fernandez-Parsons et al., 2013; Langley et al., 2015; Maluwa et al., 2012; Pergert et al., 2019; Prompahakul et al., 2021; Ritchie et al., 2018; Robaee et al., 2018; Sauerland et al., 2014; Silverman et al., 2021; Trautmann et al., 2015; Varcoe et al., 2012; Woods et al., 2015, Woods, 2020,) and nursing students (Escolar Chua & Magpantay, 2019; Krautscheid et al., 2017; Reader, 2015; Renno et al., 2018; Wojtowicz et al., 2014).

Some spoke up, directly asserted their clinical expertise to colleagues, or informed their managers (Hsun-Kuei et al., 2018; Nikbakht Nasrabadi et al., 2018; Prestia et al., 2017; Varcoe et al., 2012). Others, however, seemingly remained silent. This was primarily on account of interprofessional team hierarchies, notably the perceived enduring power of the medical profession (Atashzadeh Shorideh et al., 2012; Caram et al., 2019; Deady & McCarthy, 2010; De Sousa Vilela, et al., 2021; Escolar Chua & Magpantay, 2019; Ko et al., 2019; Langley et al., 2015; Pavlish et al., 2016; Renno et al., 2018; Silverman et al., 2021; Wolf et al., 2016) , encapsulated in the following data extract:

> *Physicians believed* [sic] *they are above us. They order for patients and they expect us to obey them and not tell them about wrong orders. We are obliged to carry out their orders without asking any question* (Atashzadeh Shorideh et al., 2012, p.471: Iran, intensive care).

Registered nurses and nursing students perceived that they were subordinate (Atashzadeh Shorideh et al., 2012; Krautscheid et al., 2017), powerless (Deady & McCarthy, 2010), invisible (De Sousa Vilela, et al., 2021) and their role, unique insights, and contribution to care undervalued (Atashzadeh Shorideh et al., 2012; Caram et al., 2019; Deady & McCarthy, 2010; De Sousa Vilela, et al., 2021; Hsun-Kuei et al., 2018; Maluwa et al., 2012; Ritchie et al., 2018; Varcoe et al., 2012; Wolf et al., 2016).

> *The physician does not assess the patient, does not do a physical exam. The entire assessment of the patient is done by the nurses, it is the nurses who pass on the information. And even with our concern, they do not value our knowledge at all* (de Sousa Vilela, et al., 2021, p. 5: Brazil, intensive care).

Fear of negative repercussions (Atashzadeh Shorideh et al., 2012; Prompahakul et al., 2021) and alienation (Deady & McCarthy, 2010), unsupportive, ineffective managers (Atashzadeh Shorideh et al., 2012; Caram et al., 2019; Hsun-Kuei et al., 2018; Langley et al., 2015; Varcoe et al., 2012; Wolf et al., 2016; Woods, 2020) and a desire to avoid team conflict were reported.

> *"We're trained to vocalize our concerns and ask the hard questions and debate, but we're reprimanded for that by our managers"* (Ritchie et al., 2018, p.104: Canada, Continuing care).

> *"What stops me from acting was I am part of a team, which should be cohesive"* (Deady & McCarthy, 2010, p.6: Ireland, Psychiatry).

Registered nurses articulated that failing to speak up intensified their moral distress experience, particularly when care standards fell below their personal and professional practice standards, and they felt complicit in prolonging suffering (Deady & McCarthy, 2010). To mitigate moral distress in such circumstances, the importance of post-incident team reflection was recognised (Deady & McCarthy, 2010). Yet, within and between teams, inadequate or insufficient communication, consultation and collaboration were identified as common problems compounding their moral distress (Atashzadeh Shorideh et al., 2012; De Brasi et al., 2021; De Sousa Vilela, et al., 2021; Langley et al., 2015; Mehlis et al., 2018; Prompahakul et al., 2021; Pavlish et al., 2016; Rezaee et al., 2019; Ritchie et al., 2018). Furthermore, registered nurses who reported poor team communication were almost five times more likely to experience moral distress compared with those experiencing good team communication (Berhie et al., 2020).

'A slave to the system': the effect of structural constraints

The organisational environment contributed to registered nurses' experiences of moral distress. Within complex organisations they recognised their role as conductors of care (Caram et al., 2019). However, there was scepticism that private sector, market driven institutional values and cultures privileged economic needs, managerialism, metrics and improving productivity over patients' needs and concerns.

> *"It's all about the scores and the numbers. We're pulling them out of the rooms now and you're putting someone in the hallway who according to your policy should be on a monitor"* (Wolf et al., 2016, p.40: United States, emergency department).

> *"Sometimes, a bed is free in the ICU, but if the patient depends on the public service, we pretend it is not free. I understand the economic aspect, because the institution needs money, but we* [nurses] *suffer because of it"* (Caram et al., 2019, p.6: Brazil, acute and intensive care).

Participants in one study (Choe et al., 2015) described situations where the inability to pay medical bills and thereby contribute to the institution's income meant homeless patients were discharged or transferred. Ritchie et al. (2018) found that institutional policy prohibited overtime working. Participants perceived this constrained professional practice and, impacted negatively on patients when timely responses were crucial to optimising outcomes.

Registered nurses articulated that organisational expectations, policies and mandates, particularly those regarding managing bureaucracy and the flow of information, disregarded their core professional beliefs and values and impeded the accomplishment of their idealised role as direct care givers:

> *"We do a lot of bureaucratic work. So, it seems that I am a "secretary with a degree". I do not want this"* (Caram et al., 2019, p.4: Brazil, acute and intensive care).

> *"This is our…choice between good care and good documentation. You [can be] a really good nurse on paper or you can actually be a really good nurse, but you don't have time to be both"* (Wolf et al., 2016, p. 41: United States, emergency department).

Nursing students reported that their practice experiences, including witnessing outdated best practice (Renno et al. 2018) and being unsupported regarding their concerns did not live up to the view of nursing to which they were being socialised (Wojtowicz et al., 2014), and contributed to moral distress.

Privileging routinised, task orientated approaches to care (Caram et al., 2019; Choe et al., 2015; Rezaee et al., 2019; Silverman et al., 2021; Varcoe et al., 2012) in organisational environments of cost containment (Jansen et al., 2020; Pergert et al., 2019; Prestia et al., 2017; Ritchie et al., 2018), inadequate, unsafe nurse staffing ratios (Caram et al., 2019; Choe et al., 2015; Deady & McCarthy, 2010; Delfrate et al., 2018; Forozeiya et al., 2019; Hsun-Kuei et al., 2018; Jansen et al., 2020; Maluwa et al., 2012; Pergert et al., 2019; Prestia et al., 2017; Rezaee et al., 2019; Silverman et al., 2021; Varcoe et al., 2012) and excessive, overwhelming workloads (Hsun-Kuei et al., 2018; Silverman et al., 2021; Varcoe et al., 2012; Wolf et al., 2016), juxtaposed against high patient acuity and insufficient time correlated with reported perceptions of lower standards of care.

> *"We usually have one or two patients max* [in the MICU] *And now, I have 6, 7, 8 patients, and they're all, like, most of them should be one-to-ones"* (Silverman et al., 2021, p.1150: United States, acute care).

> *"There are many patients who need attention and you are all alone. There are a lot of activities to be carried out urgently but you find yourself not able to do them. As a result your patient suffers"* (Maluwa et al., 2012, p.199: Malawi, various settings).

Furthermore, reports of unreliable or insufficient essential equipment, for example, bed linen, personal protective equipment, thermometers, suction machines, catheters and

medications, in low-, middle- and high-income countries, were documented (Atashzadeh Shorideh et al., 2012; Deady & McCarthy, 2010; Harrowing & Mill, 2010; Maluwa et al., 2012; Silverman et al., 2021; Wolf et al., 2016).

> *"The patient needed blood. There was a need to collect blood from a blood bank of another institution but there was no transport. Patient's condition deteriorated. I felt very bad"* (Maluwa et al., 2012, p.200: Malawi, various settings).

Visible manifestations of the dominant organisational values and culture disrupted registered nurses' identity, generated moral conflict and moral tension and triggered moral distress (Deady & McCarthy, 2010; Choe et al., 2015; Maluwa et al., 2012; Prestia et al., 2017; Ritchie et al., 2018; Wolf et al., 2016; Woods, 2020).

"I'm totally overwhelmed': The effects of moral distress on nurses

The moral distress derived from registered nurses' perceived inability to act in accordance with core professional values and optimise timely, safe, effective high-quality person-centred holistic care generated adverse biopsychosocial sequalae. Furthermore, findings from numerous studies indicated how the experience of frequent and intense moral distress impacted negatively on their professional intentions. By way of contrast, there were no reports of the effects of moral distress on nursing students in the six studies retrieved.

Physical manifestations of moral distress among registered nurses were reported in studies from Iran (Fard et al., 2020), Canada (Forozeiya et al., 2019), Norway (Jansen et al., 2020), USA (Prestia et al., 2017; Sauerland et al., 2014; Wilson et al. 2013; Wolf et al., 2016) and Uganda (Harrowing & Mill, 2010). Symptoms experienced included fatigue (Harrowing & Mill, 2010; Wolf et al., 2016), insomnia (Fard et al., 2020; Forozeiya et al., 2019; Jansen et al., 2020; Wilson et al., 2013; Wolf et al., 2016), hypertension (Jansen et al., 2020, Wolf et al., 2016) and appetite loss (Wolf et al., 2016).

> *"My body's given up on eating, like I long since have not been hungry anymore. Then at the end of the night, when I [urinate], it's orange, and I think, 'Oh my God, my kidneys are going to shut down.' What we're doing to our bodies to take care of other people's bodies"* (Wolf et al., 2016, p.43: United States, emergency department).

Moral residue, the enduring, cumulative effect of morally distressing situations (Stovall et al., 2020), manifested in insomnia, cardiovascular, gastrointestinal and menstrual problems (Pavlish et al., 2016), alopecia (Sauerland et al., 2014) and activated exacerbations of physical and psychological illnesses (Pavlish et al., 2016).

Psychological effects of registered nurses' moral distress were reported in studies from Brazil (De Sousa Vilela, et al., 2021), Canada (Forozeiya et al., 2019; Musto & Schreiber, 2012; Porr et al., 2019; Varcoe et al., 2012), Iran (Nikbakht Nasrabadi et al., 2018), Ireland (Deady & McCarthy, 2010), New Zealand (Woods, 2020), Norway (Jansen et al., 2020), Taiwan (Hsun-Kuei et al., 2018), Uganda (Harrowing & Mill, 2010) and the United States (Prestia et al., 2017; Sauerland et al., 2014; Wiegand & Funk, 2012; Wilson et al., 2013; Wolf et al., 2016). Anger and frustration were responses to the moral distress generated by systemic constraints, notably workload (Varcoe et al., 2012; Wolf et al., 2016), but also a sense of powerlessness to act in accordance with professional values (De Sousa Vilela, et al., 2021; Hsun-Kuei et al., 2018; Wiegand & Funk, 2012; Wolf et al., 2016), make meaningful change (Musto & Schreiber, 2012; Varcoe et al., 2012) or discuss moral concerns (Deady & McCarthy, 2010).

> *"I left here very distressed! It was a situation of a lot of conflict, anguish, frustration! I left frustrated because I didn't do what I could for the patient! I asked for intramuscular medication, but he* [doctor] *said she could wait for the procedure. So, I became nothing, because I spoke, the patient got worse and nothing was done"* (de Sousa Vilela, et al., 2021, p. 6: Brazil, intensive care).

Registered nurses articulated that the moral distress associated with having insufficient time to spend with patients, episodes of 'missed care', and suboptimal care standards resulted in anxiety (Forozeiya et al., 2019; Nikbakht Nasrabadi et al., 2018; Porr et al., 2019; Varcoe et al., 2012), shame (Nikbakht Nasrabadi et al., 2018; Varcoe et al., 2012), guilt (Deady & McCarthy, 2010; Harrowing & Mill, 2010; Jansen et al., 2020; Porr et al., 2019; Wolf et al., 2016; Woods, 2020), and fear (Varcoe et al., 2012; Wolf et al., 2016). Many reported feeling low, despair, and finding less meaning in life as a result of moral distress (Harrowing & Mill, 2010; Jansen et al., 2020; Wiegand & Funk, 2012). Reported feelings of helplessness and hopelessness were not uncommon (Harrowing & Mill, 2010; Wiegand & Funk, 2012; Nikbakht Nasrabadi et al., 2018; Prestia et al., 2017). Registered nurses experienced the weight of moral residue (Deady

& McCarthy, 2010; Jansen et al., 2020; Porr et al., 2019; Prestia et al., 2017; Sauerland et al., 2014; Woods, 2020). This was manifest in loss of confidence in their nursing judgements and abilities (Jansen et al., 2020; Prestia et al., 2017; Sauerland et al., 2014), depression (Deady & McCarthy, 2010; Prestia et al., 2017) and feeling traumatized, paranoid (Prestia et al., 2017) and burnt-out (Deady & McCarthy, 2010).

Many registered nurses articulated how their social relationships, networks and activities, and their work performance were adversely affected (Forozeiya et al., 2019; Jansen et al., 2020; Robinson & Stinson, 2016; Wilson et al., 2013).

> *"It* [moral distress] *affects my family life, it affects my relationships, it affects my patients, and my relationships with my peers''* (Robinson & Stinson, 2016, p.238: United States: Emergency Department)

Some distanced themselves from loved ones and social activities (Forozeiya et al., 2019; Jansen et al., 2020; Robinson & Stinson, 2016). Others reported using unhelpful coping strategies including substance misuse, food or alcohol consumption (Evanovich & Chan 2016; Robinson & Stinson, 2016; Wolf et al., 2016).

> *"'Oh my God, it's a 2-martini night,' or 'Oh, I need to go home and have a glass of wine,' and that gives me distress thinking okay now I'm thinking I'm turning to alcohol to calm this day I've had, which shouldn't ever be."* (Wolf et al., 2016, p.43)

Dreading the workplace (Forozeiya et al., 2019; Jansen et al., 2020), to protect themselves, some registered nurses reported distancing themselves from patients (Krautscheid et al., 2017; Robinson & Stinson, 2016; Varcoe et al., 2012) and the workplace (Forozeiya et al., 2019; Robinson & Stinson, 2016).

> *When you are experiencing this, you don't want to come to work. You try to distance yourself from your patients. You try to be cold and uncaring"* (Robinson & Stinson, 2016, p. 238: United States, Emergency Department)

Moral distress meant some registered nurses contemplated working fewer hours (Forozeiya et al., 2019; Nikbakht Nasrabadi et al., 2018), taking a career break (Jansen et al., 2020) or leaving their workplace (Asayesh et al., 2018; Borhani et al., 2014; Christodoulou-Fella et al., 2017; Davis et al., 2012; Evanovich & Chan 2016; Fernandez-Parsons et al., 2013; Forozeiya et al., 2019; Hou et al., 2021; Jansen et al., 2020; Nikbakht Nasrabadi et al., 2018; Robinson &

Stinson, 2016, Wilson et al., 2013, Woods et al., 2015) or even the profession (Alberto Fruet et al., 2019). Studies indicated a connection, between more frequent and/or intense moral distress and the intention to leave a position (Dyo et al., 2016; Hamaideh, 2014; Hatamizadeh et al., 2019; Hou et al., 2021; Laurs et al., 2020; Prompahakul et al., 2021; Soleimani et al. 2019). Others reported having left their workplace or positions completely (Asayesh et al., 2018; Evanovich & Chan, 2016, Fernandez-Parsons et al., 2013; Varcoe et al., 2012; Wilson et al., 2013) or transferred to work elsewhere due to moral distress (Deady & McCarthy; 2010, Varcoe et al., 2012).

However, not all registered nurses who had experienced moral distress left or considered leaving their positions (Borhani et al., 2014; Evanovich & Chan, 2016). Some used moral distress as a learning experience to drive them. For example, a subsection of participants in one study (Varcoe et al., 2012) reported that their moral distress motivated them and enabled them to build resolve. Nursing students experiencing moral distress reported seeing it as a form of learning, to avoid this happening to others in the future (Renno et al., 2018).

DISCUSSION

Understanding factors contributing to moral distress among registered nurses and nursing students

Evidence for the contribution of individual characteristics, including, age, length of service, and gender, on moral distress was inconclusive. There is a need for further research to examine whether there are common individual characteristics that exacerbate nurses' experiences of moral distress. Identifying those who are most at risk of experiencing moral distress may enable more effective targeting and tailoring of interventions, as well as crucial learning around factors that might be protective against moral distress, especially among nurses working in similar roles and clinical environments. This evidence would be vital to inform development of interventions to prevent moral distress rather than mitigating the effects of moral distress that has already occurred and caused harm.

However, studies examining factors contributing to moral distress experiences were mostly correlational and used convenience sampling, which in itself runs the risk of selection bias. Furthermore, different measures were used to assess moral distress (Supplementary material file 2 Table 1). Nevertheless Included studies mostly used established, validated outcome measures which focus on the frequency and intensity of moral distress across different items including, for example, end-of-life care, unsafe staffing, clinical decision-making, institutional constraints, workplace culture and autonomy. Mainly these measures were the Moral Distress Scale-Revised (MDS-R) (*n*=19) (Hamric et al., 2012), a scaled back version of Corley et al.'s (2001) seminal Moral Distress Scale (MDS) which, in this review, was used by 12 included studies. Three studies (Alberto Fruet et al., 2019; Hou et al., 2021; Pergert et al., 2019) used translated versions of the original English language MDS (Corley et al., 2001) and MDS-R (Hamric et al., 2012), two used a version of the MDS adapted for psychiatry (Delfrate et al., 2018; Hamaideh, 2014) and one used Epstein et al.'s (2019) Measure of Moral Distress for Healthcare Professionals which is based on the MDS. However, measures used in the remaining five studies (Haghighinezhad et al., 2019; Krautschied et al., 2020; Rathert et al. 2016; Robaee et al., 2018; Wands, 2018) were not underpinned by either the MDS or MDS-R. Furthermore, Rathert et al. (2016) developed a bespoke measure focusing on ethical issues and conceptualised moral distress as moral stress. Notwithstanding the significance and immense contribution of Corley et al.'s (2001) seminal work in terms of enhancing our understanding of moral distress among nurses and for the purpose of research, arguably there is much more work to be done, not least because of the immense global societal change in the intervening years conjoined with serious concerns about the retention and sustainability of the nursing workforce worldwide. In addition to measures of moral distress longitudinal assessment of how moral distress (and associated constructs including moral injury) develops is needed, as well as studies of the impact of interventions implemented to mitigate moral distress with long-term follow-up.

Despite equivocal evidence around the relationship between individual factors and moral distress, organisational factors, including registered nurses' and nursing students' perceived autonomy, ability to advocate, and opportunity to raise concerns around care, were consistently reported to contribute to nurses' experiences of moral distress. Insufficient

institutional support to behave ethically, inadequate resources, insufficient staffing and a wider "culture of silence" (Pavlish et al., 2016) all precipitated moral distress. Yet, insufficient resources and poor staffing levels were triggered by high levels of moral distress among team members, creating a vicious cycle (Delfrate et al., 2018; DeKeyser Ganz et al., 2013; Harrowing & Mill, 2010; Hsun-Kuei et al., 2018; Silverman et al., 2021).

This emphasises the need to respond to moral distress through preventative organisational strategies in addition to individually focussed interventions. Existing supportive interventions for tackling moral distress include Moral Distress Reflective Debriefs (Morley & Horsburgh, 2021) and the Moral Distress Debriefing Framework (Shashidhara & Kirk, 2020). Hence, cultivating organisational cultures that optimise staff support and open safe spaces for discussion of morally challenging experiences through, for example, clinical ethics services or effective, reflective and supportive clinical supervision should be prioritised (Dittborn et al., 2021; Morley et al., 2020b), especially in the wake of COVID-19. Indeed, reporting findings from their recent study, Dittborn et al. (2021) showed how clinical ethics support services supported healthcare professionals in ethically challenging situations during the COVID-19 pandemic. However, further robust empirical investigation of these interventions to ascertain potential impact on moral distress experienced is needed. Similarly, reviewing and promoting existing organisational policies that enable nurses to raise concerns, promote nurses' advocacy role, and support effective intra- and inter-professional working through the lens of mitigating moral distress could serve to avert and ameliorate the impacts of morally challenging situations. Given the ubiquity of moral challenge in healthcare practice, removal of moral complexity is an unattainable goal. However, a renewed policy focus may prevent onset of moral distress, moral injury and, in turn, the short- and long-term harms on nurses' physical and psychological health.

Addressing the effect of moral distress on nurses' health, wellbeing, professional and career intentions

Moral distress disrupted nurses' physical and psychological health, wellbeing and professional and career intentions. Nurses reported experiencing physical symptoms of fatigue, insomnia,

hypertension, appetite loss, as well as exacerbation of existing cardiovascular, gastrointestinal and menstrual problems. Psychological effects included anxiety, depression, anger, frustration, helplessness, hopelessness, shame, guilt and fear which negatively affected wellbeing. Interventions to support nurses experiencing moral distress therefore need to recognise the diversity of symptoms and sequalae of moral distress and provide holistic, integrated physical and mental health care in response. Similarly, both the short- and longer-term effects of experiencing moral distress identified in our systematic review need to be supported. For example, nurses described how their experience of moral distress left them feeling traumatised, shocked, or haunted (Forozeiya et al., 2019; Harrowing & Mill, 2010; Varcoe et al., 2012). There is considerable risk that the moral distress experienced by nurses (and other healthcare professionals) during the SARS-CoV-2 pandemic will result in moral injury and increased prevalence of PTSD. Indeed, emerging international evidence has documented concerning levels of reported PTSD symptoms among nurses and other healthcare workers, particularly among those who worked on the SARS-CoV-2 pandemic frontline (Bae et al., 2022; Levi & Moss, 2022; Moon et al., 2021). Timely signposting and referral to specialist psychological support services therefore needs to be a core component of interventions developed to mitigate moral distress to support recovery, rebuilding and retention of the nursing workforce.

Moral distress was also associated with increased risk of workforce turnover and loss. Experiencing moral distress resulted in as many as a quarter of nurses considering leaving their current role and up to half intending to leave the nursing profession. Prior to the SARS-CoV-2 pandemic, the nursing workforce was already depleted, with a deficit of 6 million nurses globally (World Health Organization, 2020). Shortfalls are predicted to increase (Douglas et al., 2020) due to an ageing international nursing workforce (Denton et al., 2021; Kwok et al., 2016; Ryan et al., 2017). Demand for healthcare is intensifying due to changing patient demographics, widening health inequalities and increasing chronicity. There are serious implications for the quality and safety of care provision and the health and wellbeing of the nursing workforce. Protecting, sustaining, and retaining a healthy, motivated, and appropriately supported nursing workforce is central to the delivery of high quality, safe and effective care and meeting current and future population health needs (Gray et al., 2020;

World Health Organization, 2021). The risk of further loss of nursing personnel and expertise in the wake of the COVID-19 due to moral distress pandemic places urgency on healthcare organisations and governments internationally to develop national strategies, organisational policies, and interventions to mitigate the impact of moral distress on the nursing workforce.

The effects of moral distress on nursing students' own health, wellbeing and intentions to remain do not appear to have been reported in the literature. Yet interestingly, nursing students responded to their moral distress by seeing it as a form of learning. They wanted to prevent this happening to others as they developed in their careers (Renno et al., 2015). This represents positive change from difficult situations: a form of post-traumatic growth. Yet there is an inherent risk that repeated exposure to moral distress may normalise it.

Our findings have implications for nursing education across all levels and preparing nursing students - the future workforce - for their clinical practice, including practice in a public health emergency. Nursing students are taught to manage their own resilience (Walsh et al., 2020) as they will become autonomous professionals and are expected to act ethically. Nurse education focuses on professional development and patients' interests and autonomy within the bounds of professional codes of conduct (for example, Nursing and Midwifery Council, 2020). Arguably this focus may lead to potential moral distress if the ability to exercise professional autonomy, act ethically to promote and uphold the patients' interests and remain resilient is obstructed by wider circumstance over which they have little control.

Strengths and limitations

Our systematic review was conducted by a multidisciplinary review team with a minimum of two reviewers engaged in the independent screening and extracting process. Some aspects of systematic review methodology were simplified to produce a review in a short enough time frame for the findings to remain relevant as healthcare services shift to the recovery phase of the pandemic. More specifically, searches were limited to 2010 to 2021 and empirical literature focused on nurses published in the English language. It is entirely possible that some potentially useful studies, notably those not published in the English

language have been omitted. We also excluded pre-prints and consequently identified only one study focusing on moral distress among nurses in the context of a pandemic. It is highly likely that over time the empirical literature pertaining to moral distress in the context of SARS-CoV-2 will grow. By limiting the search dates in this way we have ensured that the evidence assessed has context and relevance to current policy and practice.

CONCLUSIONS

This systematic review is important and timely given wider changes in the healthcare landscape and the SARS-CoV-2 pandemic which has substantially increased pressure on nurses and others providing care. This review adds specifically to understanding the effects of moral distress on registered nurses and nursing students. Several factors contribute to their moral distress experience that may be related to a perceived inability to enact moral agency. Experiences of moral distress are complex, relational and located at individual, team organisational and structural levels. The moral distress experience does not occur in a vacuum and there is potential for the interplay of complex relationships between individuals and organisational structures. Accordingly, moral distress is an inherently relational, complex and contextualised phenomenon. In challenging situations there was a perception that registered nurses and nursing students were unable to enact an idealised version of their role. Registered nurses and nursing students were constrained by personal perceptions of powerlessness, insufficient specialist practice and ethical knowledge, a perceived lack of agency to do the best for patients, and their families, and, at structural levels, relational and organisational constraints. Although encouraged to develop their own resilience, registered nurses and nursing students may be unable to exercise professional autonomy and uphold patient interests.

Moral distress impacted registered nurses' health and wellbeing and manifest in emotional reactions including guilt, self-doubt, loss of self-confidence, anger and frustration. Health threatening behaviours were also identified. These emotions and behaviours may have detrimental longer-term consequences for registered nurses. Enduring tropes of selfless and angelic nurses may further exacerbate the focus on the individual nurse, implying that

the problem is a personal failing, lack of competence or transgression of professional codes. Increasing incidence of moral distress has implications for the nursing workforce. Specifically, a vicious cycle may develop in which registered nurses leave and those who continue are left under increasing pressure exacerbating moral distress in the workforce. The effects of moral distress on nursing students' own health, wellbeing and intentions to remain does not appear to have been reported in the literature. Such research is urgently needed to sustain and protect the profession and optimise future patient safety.

REFERENCES

Abdolmaleki, M., Lakdizaji, S., Ghahramanian, A., Allahbakhshian, A., & Behshid, M. (2019). Relationship between autonomy and moral distress in emergency nurses. *Indian Journal of Medical Ethics*,*4,*20-25. DOI:10.20529/ IJME.2018.076

Aiken, L.H., Sloane. D,M., Bruyneel, L., et al., (2014). Nurse staffing and education and hospital mortality in nine European countries: a retrospective observational study. *Lancet,383,*1824–30. https://doi.org/10.1016/S0140-6736(13)62631-8

Ajoudani, F., Baghaei, R., & Lotfi, M. (2019). Moral distress and burnout in Iranian nurses: The mediating effect of workplace bullying. *Nursing Ethics*,*26,*1834-1847. https://doi.org/10.1177%2F0969733018779210

Alberto Fruet, I.M., de Lima Dalmolin, G., Zancan Bresolin, J., Andolhe, R., & Devos Barlem, E.L. (2019). Moral distress assessment in the nursing team of a hematology-oncology sector. *Revista Brasileira de Enfermagem,72,*58-65. https://doi.org/10.1590/0034-7167-2017-0408

Altaker, K.W., Howie-Esquivel, J., & Cataldo, J.K. (2018). Relationships among palliative care, ethical, climate, empowerment and moral distress in intensive care unit nurses. *American Journal of Critical Care,27,*295-302. https://doi.org/10.4037/ajcc2018252

Asayesh, H., Mosavi, M., Abdi, M., Masoud, M.P., & Jodaki, K. (2018).The relationship between futile care perception and moral distress among intensive care unit nurses. *Journal of Medical Ethics and History of Medicine,11*:2. JMEHM-11-2 (nih.gov)

Asgari, S., Shafipour, V., Taraghi, Z., & Yazdani-Charati, J. (2019).Relationship between moral distress and ethical climate with job satisfaction in nurses. *Nursing Ethics*,*26,*346-356. https://doi.org/10.1177%2F0969733017712083

Atashzadeh Shorideh, F., Ashktorab, T., & Yaghmaei, F. (2012). Iranian intensive care unit nurses' moral distress: A content analysis. *Nursing Ethics*,*19*,464-478. https://doi.org/10.1177%2F0969733012437988

Bae, S. Y., Yoon, H. J., Kim, Y., & Kim, J. (2022). Posttraumatic stress disorder and related factors among nurses working during the COVID-19 pandemic. *Journal of Nursing Management*. https://doi.org/10.1111/jonm.13615

Bayat, M., Shahriari, M., & Keshvari, M. (2019). The relationship between moral distress in nurses and ethical climate in selected hospitals of the Iranian social security organization. *Journal of Medical Ethics and History of Medicine*,*12*. https://doi.org/10.18502%2Fjmehm.v12i8.1339

Berhie, A.Y, Tezera, Z.B., & Azagew, A.W. (2020). Moral distress and its associated factors among nurses in northwest Amhara regional state referral hospitals, northwest

Ethiopia. *Psychology Research and Behavior Management,13*,161-167. https://doi.org/10.2147%2FPRBM.S234446

Borhani, F., Abbaszadeh, A., Nakhaee, N., & Roshanzadeh, M. (2014). The relationship between moral distress, professional stress, and intent to stay in the nursing profession. *Journal of Medical Ethics and History of Medicine,7*,3.

Broetje, S., Jenny, G,J., & Bauer, G.F. (2020). The key job demands and resources of nursing staff: An integrative review of reviews. *Frontiers in Psychology,11*,84. https://doi.org/10.3389/fpsyg.2020.00084

Browning, A.M. (2013).Moral distress and psychological empowerment in critical care nurses caring for adults at the end of life. *American Journal of Critical Care, 22,*143-152. https://doi.org/10.4037/ajcc2013437

Canciani, E., Spotti, D., & Bonetti, L. (2016). Translation and validation in Italian of the moral distress scale for psychiatric nurses (MDS-P). *Professioni infermieristiche,69*,68-75.

Caram, C.S., Peter, E., & Brito, M.J. (2019). Invisibility of the self: Reaching for the telos of nursing within a context of moral distress. *Nursing Inquiry*,*26*. https://doi.org/10.1111/nin.12269

Centre for Reviews & Dissemination. (2009). CRD's guidance on undertaking reviews in health care. York.

Chin, W.S., Chen, Y.C., Ho, J.J., Cheng, N.Y., Wu, H.C., & Shiao, J.S. (2019). Psychological work environment and suicidal ideation among nurses in Taiwan. *Journal of Nursing Scholarship,51*,106-113. https://doi.org/10.1111/jnu.12441

Chana, N., Kennedy, P., & Chessell, Z.J. (2015). Nursing staffs' emotional well-being and caring behaviours. *Journal of Clinical Nursing,24*,2835-2848. https://doi.org/10.1111/jocn.12891

Choe, K., Kang, Y., & Park, Y. (2015). Moral distress in critical care nurses: A phenomenological study. *Journal of Advanced Nursing*,*71*,1684-1693. https://doi.org/10.1111/jan.12638

Christodoulou-Fella, M., Middleton, N., Papathanassoglou, E.D.E., & Karanikola, M.N.K. (2017). Exploration of the association between nurses' moral distress and secondary traumatic stress syndrome: Implications for patient safety in mental health services. *BioMed Research International*, 1-19. https://doi.org/10.1155/2017/1908712

Colville, G., Dawson, D., Rabinthiran, S., Chaudry-Daley, Z., & Perkins-Porras, L. (2019). A survey of moral distress in staff working in intensive care in the UK. *Journal of the Intensive Care Society*,*20*,196-203. https://doi.org/10.1177%2F1751143718787753

Corley MC, Elswick RK, Gorman M, Clor T. (2001). Development and evaluation of a moral distress scale. *Journal of Advanced Nursing*,*33*,250-256. https://doi.org/10.1111/j.1365-2648.2001.01658.x

Couper, K., Murrells, T., Sanders, J., Anderson, J.E., Blake, H., Kelly, D., Kent, B., Maben, J., Rafferty, A.M., Taylor, R.M., & Harris, R. (2022). The impact of COVID-19 on the wellbeing of the UK nursing and midwifery workforce during the first pandemic wave: A longitudinal survey study. *International Journal of Nursing Studies*, *127.* https://doi.org/10.1016/j.ijnurstu.2021.104155

Crespo Drago, L., Souza Ramos, F.R., de Farias Brehmer, L.C., Ramos Silveira, L., & Menezes Brito, M.J. (2020). Nurse managers' moral suffering in a university hospital. *Revista de Pesquisa: Cuidado e Fundamental*,*12*,1074-1080

Crowe, S., Howard, A., Vanderspank-Wright, B., Gillis, P., McLeod, F., Penner, C. & Haljan, G. (2021). The effect of COVID-19 pandemic on the mental health of Canadian critical care nurses providing patient care during the early phase pandemic: A mixed method study. *Intensive and Critical Care Nursing*, https://doi.org/10.1016/j.iccn.2020.102999

Davis, S., Schraderm V., & Belcheir, M.J. (2012) Influencers of ethical beliefs and the impact on moral distress and conscientious objection. *Nursing* Ethics,*19*,738-749. https://doi.org/10.1177%2F0969733011423409

Deady, R., & McCarthy, J. (2010). A study of the situations, features, and coping mechanisms experienced by Irish psychiatric nurses experiencing moral distress. *Perspectives in Psychiatric Care,46*, 209-220. doi: 10.1111/j.1744-6163.2010.00260.x

De Brasi, E.L., Giannetta, N., Ercolani, S., Gandini, E.L.M., Moranda, D., Villa, G., et al. (2021). Nurses' moral distress in end-of-life care: A qualitative study. *Nursing Ethics, 28*,614-627. https://doi.org/10.1177%2F0969733020964859

DeKeyser Ganz, F., Raanan, O., Khalaila, R., Bennaroch, K., Scherman, S., Bruttin, M., et al. (2013). Moral distress and structural empowerment among a national sample of Israeli intensive care nurses. *Journal of Advanced Nursing,69,* 415-424. https://doi.org/10.1111/j.1365-2648.2012.06020.x

Delfrate, F., Ferrara, P., Spotti, D., Terzoni, S., Lamiani, G., Canciani, E., et al. (2018). Moral distress (md) and burnout in mental health nurses: A multicenter survey. *La Medicina del lavoro*,*109*,97-109. https://doi.org/10.23749%2Fmdl.v109i2.6876

Denton, J., Evans, D., & Xu, Q. (2021). Being an older nurse or midwife in the healthcare workplace–a qualitative descriptive study. *Journal of Advanced Nursing,* https://doi.org/10.1111/jan.14964

de Sousa Vilela, G., Lima Cardoso Ferraz, C.M., de Araújo Moreira, D., Menezes Brito, M.J. (2021). Ethics and moral distress expressions in intensive care nursing practice. *Acta Paulista de Enfermagem,34*,1-11

Dittborn, M., Cave, E., Archard, D. (2021). Clinical ethics support services during the Covid-19 pandemic in the uk: A cross-sectional survey. *Journal of Medical Ethics.* http://dx.doi.org/10.1136/medethics-2021-107818

Dodek, P.M., Norena, M., Ayas, N., & Wong, H. (2019). Moral distress is associated with general workplace distress in intensive care unit personnel. *Journal of Critical Care, 50,*122-125. https://doi.org/10.1016/j.jcrc.2018.11.030

Douglas, J.A., Bourgeois, S., & Moxham, L. (2020). Early career registered nurses: How they stay. *Collegian*,*27*,437-442. https://doi.org/10.1016/j.colegn.2020.01.004

Dyo, M., Kalowes, P., & Devries, J. (2016). Moral distress and intention to leave: A comparison of adult and paediatric nurses by hospital setting. *Intensive and Critical Care Nursing*,*36,*42-8. https://doi.org/10.1016/j.iccn.2016.04.003

Emmamally, W., & Chiyangwa, O. (2020). Exploring moral distress among critical care nurses at a private hospital in Kwa-zulu Natal, South Africa. *Southern African Journal of Critical Care*,*36*,104-108. https://hdl.handle.net/10520/ejc-m_sajcc-v36-n2-a7

Epstein, E.G., Whitehead, P.B., Prompahakul, C., Thacker, L.R., & Hamric, A.B. (2019). Enhancing understanding of moral distress: The measure of moral distress for health care professionals. *AJOB Empirical Bioethics,10*, 113-124. https://doi.org/10.1080/23294515.2019.1586008

Escolar Chua, R.L., & Magpantay, J.C,J. (2019). Moral distress of undergraduate nursing students in community health nursing. *Nursing Ethics*,*26*,2340-2350. https://doi.org/10.1177%2F0969733018819130

Evanovich Zavotsky, K., & Chan, G.K. (2016). Exploring the relationship among moral distress, coping, and the practice environment in emergency department nurses. *Advanced Emergency Nursing Journa*l,*38*,133-146. https://doi.org/10.1097/TME.0000000000000100

Fard, Z.R., Azadi, A., Veisani, Y., & Jamshidbeigi, A. (2020).The association between nurses' moral distress and sleep quality and their influencing factor in private and public hospitals in Iran. *Journal of Education and Health Promotion,9.* https://doi.org/10.4103%2Fjehp.jehp_291_20

Fernandez-Parsons, R., Rodriguez, L., & Goyal, D. (2013). Moral distress in emergency nurses. *JEN: Journal of Emergency Nursing,39,*547-552. https://doi.org/10.1016/j.jen.2012.12.009

Forozeiya, D., Vanderspank-Wright, B., Bourbonnais, F.F., Moreau, D., & Wright, D.K. (2019). Coping with moral distress – the experiences of intensive care nurses: An interpretive descriptive study. *Intensive & Critical Care Nursing*,*53*,23-29. https://doi.org/10.1016/j.iccn.2019.03.002

Galanis, P., Vraka, I., Fragkou, D., Bilali, A., & Kaitelidou, D. (2021). Nurses' burnout and associated risk factors during the Covid-19 pandemic: A systematic review and meta-analysis. *Journal of Advanced Nursing*. medRxiv preprint doi: https://doi.org/10.1101/2020.11.24.20237750

Giorgi A. (2009). *The descriptive phenomenological method in psychology: A modified husserlian approach*. Pennsylvania, Duquesne University Press.

Gray, B., Bright, D., Bolton, S. & Davies, A.R. (2021).*Towards a healthy and sustainable workforce for the future: The current health and wellbeing of the nursing and midwifery workforce in Wales*. Cardiff, Public Health Wales.

Griffiths, P., Recio-Saucedo, A., Dall'Ora, C., Briggs, J., Maruotti, A., Meredith, P., Smith, G.B., &Ball, J. (2018). Missed Care Study Group. The association between nurse staffing and omissions in nursing care: A systematic review. *Journal of Advanced Nursing,74*, 1474–1487. https://doi.org/10.1111/jan.13564

Haas, S., Swan, B.A., & Jessie, AT. (2020). The Impact of the Coronavirus Pandemic on the Global Nursing Workforce. *Nursing Economics,38,* 231-237.

Haghighinezhad, G., Atashzadeh-Shoorideh, F., Ashktorab, T., Mohtashami, J., & Barkhordari-Sharifabad, M. (2019).Relationship between perceived organizational justice and moral distress in intensive care unit nurses. *Nursing* Ethics, 26,460-470. https://doi.org/10.1177%2F0969733017712082

Hamaideh, S.H. (2014). Moral distress and its correlates among mental health nurses in Jordan. *International Journal of Mental Health Nursing*,*23,*33-41. https://doi.org/10.1111/inm.12000

Hamric, A.B., Borchers, C.T., Epstein, E.G. (2012). Development and testing of an instrument to measure moral distress in healthcare professionals. *AJOB Primary Research*,*3*, 1-9. https://doi.org/10.1080/21507716.2011.652337

Harorani, M., Golitaleb, M., Davodabady, F., Zahedi, S., Houshmand, M., Mousavi, S.S., et al. (2019). Moral distress and self-efficacy among nurses working in critical care unit in Iran-an analytical study. *Journal of Clinical and Diagnostic Researc*h,13,LC06-LC09

Harrowing, J.N., & Mill, J. (2010). Moral distress among Ugandan nurses providing HIV care: A critical ethnography. *International Journal of Nursing Studies*,47,723-731. https://doi.org/10.1016/j.ijnurstu.2009.11.010

Hartin, P., Birks, M., & Lindsay, D. (2018).Bullying and the nursing profession in Australia: An integrative review of the literature. *Collegian,25*, 613-619. https://doi.org/10.1016/j.colegn.2018.06.004

Hartin, P., Birks. M., & Lindsay, D. (2020) Bullying in nursing: How has it changed over 4 decades? *Journal of Nursing Management,28,*1619-1626. https://doi.org/10.1111/jonm.13117

Hatamizadeh, M., Hosseini, M., Bernstein, C., & Ranjbar, H. (2019). Health care reform in Iran: Implications for nurses' moral distress, patient rights, satisfaction and turnover intention. *Journal of Nursing Management*,*27,*396-403. https://doi.org/10.1111/jonm.12699

Hiler, C.A., Hickman, J.R.L., Reimer, A.P., & Wilson, K. (2018). Predictors of moral distress in a us sample of critical care nurses. *American Journal of Critical Care,27*,59-66. https://doi.org/10.4037/ajcc2018968

Hong, Quan Nha et al.(2018). 'The Mixed Methods Appraisal Tool (MMAT) Version 2018 for Information Professionals and Researchers'. *Education for Information,34,*285-291. https://doi:10.3233/EFI-180221

Hou, Y., Timmins, F., Zhou, Q., & Wang, J. (2021). A cross-sectional exploration of emergency department nurses' moral distress, ethical climate and nursing practice environment. *International Emergency Nursing*,*55*. https://doi.org/10.1016/j.ienj.2021.100972

House of Commons Health and Social Care Committee. (2021).*Workforce burnout and resilience in the NHS and social care: Second report of session 2021–22*. Retrieved from: https://committees.parliament.uk/publications/6158/documents/68766/default/

Hsun-Kuei, K., Chi-Chun, C., & Min-Tao, H. (2018). Moral distress model reconstructed using grounded theory. *Journal of Nursing Research*,*26*,18-26. doi:10.1097/JNR.0000000000000189

Jameton, A. (1984). *Nursing practice: The ethical issues*. Englewood Cliffs, NJ: Prentice Hall

Jansen, T.L., Hem, M.H., Dambolt, L.J., & Hanssen I. (2020) Moral distress in acute psychiatric nursing: Multifaceted dilemmas and demands. *Nursing Ethics*,*27*,1315-1326. https://doi.org/10.1177%2F0969733019877526

Jiang, H., Huang, N., Tian, W., Shi, S., Yang, G., & Pu, H. (2022). Factors Associated With Post-traumatic Stress Disorder Among Nurses During COVID-19. *Frontiers in Psychology*,*13*, 745158. https://doi.org/10.3389/fpsyg.2022.745158

Karanikola, M.N.K., Albarran, J.W., Drigo, E., Giannakopoulou, M., Kalafati, M., Mpouzika, M., et al. (2014). Moral distress, autonomy and nurse-physician collaboration among intensive care unit nurses in Italy. *Journal of Nursing Managemen*t,*22*,472-484. https://doi.org/10.1111/jonm.12046

Kinman, G., & Teoh, K, A. H. (2020). *The mental health and wellbeing of nurses and midwives in the United Kingdom.* Retrieved from: https://www.som.org.uk/sites/som.org.uk/files/The_Mental_Health_and_Wellbeing_of_Nurses_and_Midwives_in_the_United_Kingdom.pdf.

Ko, H-K., Chin, C-C., Hsu, M-T., & Lee, S-L. (2019). Phenomenon of moral distress through the aspect of interpretive interactionism. *Nursing Ethics*,*26*,1484-1493. https://doi.org/10.1177%2F0969733018766579

Krautscheid, L. Mood, L., McLennon, S.M., Mossman, T.C., Wagner, M., & Wode, J. (2020). Examining relationships between resilience protective factors and moral distress among nursing students. *Nursing Education Perspectives,41*,43-45. doi: 10.1097/01.NEP.0000000000000471

Krautscheid, L., DeMeester, D.A., Orton, V., Smith, A., Livingston, C., & McLennon, S.M. (2017). Moral distress and associated factors among baccalaureate nursing students: A multisite descriptive study. *Nursing Education Perspectives*,*38*, 313-319. doi: 10.1097/01.NEP.0000000000000214

Kwok, C., Bates, K.A., & Ng, E.S. (2016). Managing and sustaining an ageing nursing workforce: Identifying opportunities and best practices within collective agreements in Canada. *Journal of Nursing Management*,*24*,500-511. https://doi.org/10.1111/jonm.12350

Lai, J., Ma, S., Wang, Y., Cai, Z., Hu, J., Wei, N., et al. (2020). Factors associated with mental health outcomes among health care workers exposed to coronavirus disease 2019. *JAMA Network Open,3.* doi:10.1001/jamanetworkopen.2020.3976

Langley, G.C., Kisorio, L., & Schmollgruber, S. (2015). Moral distress experienced by intensive care nurses. *Southern African Journal of Critical Care,31*,36-41. https://doi.org/10.7196/SAJCC.2015.v31i2.235

Latimer, A.L., Otis, M.D., Flaherty, C., & Ross, M.A. (2021). A survey of moral distress and end of life care in mechanical circulatory support nurses. *Heart & Lung*,*50*,65-70. https://doi.org/10.1016/j.hrtlng.2020.06.010

Laurs, L., Blaževičienė, A., Capezuti, E., & Milonas, D. (2020) Moral distress and intention to leave the profession: Lithuanian nurses in municipal hospitals. *Journal of Nursing Scholarship*,*52*,201-209. https://doi.org/10.1111/jnu.12536

Lee, E.K., & Kim, J.S. (2020). Nursing stress factors affecting turnover intention among hospital nurses. *International Journal of Nursing Practice,26*,e12819. https://doi.org/10.1111/ijn.12819

Levi, P., & Moss, J. (2022). Intensive Care Unit Nurses' Lived Experiences of Psychological Stress and Trauma Caring for COVID-19 Patients.*Workplace Health and Safety,* https://doi.org/10.1177%2F21650799211064262

Li, Z., Ge, J., Yang, M., Feng, J., Qiao, M., Jiang, R., et al. (2020). Vicarious traumatization in the general public, members, and non-members of medical teams aiding in covid-19 control. *Brain, Behavior, and Immunity,88*,916-919. https://doi.org/10.1016/j.bbi.2020.03.007

Lizarondo, L., Stern, C., Carrier, J., Godfrey, C., Rieger, K., Salmond, S., Apostolo, J., Kirkpatrick, P., & Loveday, H. (2020). Chapter 8: Mixed methods systematic reviews. In: Aromataris E, Munn Z (Editors). *JBI Manual for Evidence Synthesis.* JBI, Retrieved from: https://synthesismanual.jbi.global. https://doi.org/10.46658/JBIMES-20-09

Maluwa, V.M., Andre, J., Ndebele, P., & Chilemba, E. (2012). Moral distress in nursing practice in Malawi. *Nursing Ethics*,*19*,196-207. https://doi.org/10.1177%2F0969733011414968

Martín-Del-Río, B., Solanes-Puchol, Á., Martínez-Zaragoza, F., & Benavides-Gil, G. (2018). Stress in nurses: The 100 top-cited papers published in nursing journals. *Journal of Advanced Nursing*,*74*,1488-1504. https://doi.org/10.1111/jan.13566

McCarthy, J., & Deady, R. (2008). Moral distress reconsidered. *Nursing Ethics,15*, 254-262. https://doi.org/10.1177%2F0969733007086023

Mehlis, K., Bierwirth, E., Laryionava, K., Mumm, F.H., Hiddemann, W., Heusner, P., et al. (2018). High prevalence of moral distress reported by oncologists and oncology nurses in end-of-life decision making. *Psycho-Oncology*,*27*, 2733-2739. https://doi.org/10.1002/pon.4868

Melnyk, B.M. (2020). Burnout, depression and suicide in nurses/clinicians and learners: An urgent call for action to enhance professional well-being and healthcare safety. *Worldviews on Evidence-Based Nursing,17,*2-5. http://dx.doi.org/10.1111/wvn.12416

Melnyk, B.M., Orsolini, L., Tan, A., Arslanian-Engoren, C., Melkus, G.D., & Dunbar-Jacob, J., et al. (2018). A national study links nurses' physical and mental health to medical errors and perceived worksite wellness. *Journal of Occupational and Environmental Medicine*,*60*,126-131. https://doi.org/10.1097/JOM.0000000000001198

Mo, Y., Deng, L., Zhang, L., Lang, Q., Liao, C., Wang, N., et al. (2020). Work stress among Chinese nurses to support Wuhan in fighting against Covid-19 epidemic. *Journal of Nursing Management,28*,1002-1009. https://doi.org/10.1111/jonm.13014

Moaddaby, S., Adib, M., Ashrafi, S., & Leili. E.K. (2021). Perception of the futile care and its relationship with moral distress in nurses of intensive care units. *Journal of Holistic Nursing & Midwifery*,*31*,85-92.

Moon, D-J., Han, M.A., Park, J., Ryu, S.Y. (2021). Post-traumatic stress and related factors among hospital nurses during the Covid-19 outbreak in Korea. *Psychiatric Quarterly,* 1-11. https://doi.org/10.1007/s11126-021-09915-w

Morley, G., & Horsburgh, C.C. (2021). Reflective debriefs as a response to moral distress: Two case study examples. *HEC Forum,*1-20. https://doi.org/10.1007/s10730-021-09441-z

Morley, G., Bradbury-Jones. C., & Ives, J. (2020a). What is 'moral distress' in nursing? A feminist empirical bioethics study. *Nursing Ethics,27*,1297-1314. https://doi.org/10.1177%2F0969733019874492

Morley, G., Sese, D., Rajendram, P., & Horsburgh, C.C. (2020b). Addressing caregiver moral distress during the Covid-19 pandemic. *Cleveland Clinic Journal of Medicine*. https://doi.org/10.3949/ccjm.87a.ccc047

Morley, G., Ives, J., Bradbury-Jones, C., & Irvine, F. (2019). What is 'moral distress'? A narrative synthesis of the literature. *Nursing Ethics,26*,646-662. https://doi.org/10.1177%2F0969733017724354

Musto, L., & Schreiber, R.S. (2012). Doing the best I can do: Moral distress in adolescent mental health nursing. *Issues in Mental Health Nursing*,*33*,137-144. https://doi.org/10.3109/01612840.2011.641069

Nikbakht Nasrabadi, A., Khoobi, M., Cheraghi, M.A., Joolaei, S., & Ahmadi Hedayat, M. (2018). The lived experiences of clinical nurse managers regarding moral distress. *Journal of Medical Ethics and History of Medicine*,*11*,13.

Nursing and Midwifery Council. (2020).*The NMC register: 1st April 2019-31st March 2020.* Retrieved from: https://www.nmc.org.uk/globalassets/sitedocuments/nmc-register/march-2020/nmc-register-march-2020.pdf

O'Connell, C.B. (2015). Gender and the experience of moral distress in critical care nurses. *Nursing Ethics*,*22*,32-42. https://doi.org/10.1177%2F0969733013513216

Olson, L. (1998). Hospital nurses' perceptions of the ethical climate of their work setting. *Journal of Nursing Scholarship,30*, 345-349.

Pace, R., Pluye, P., Bartlett, G., Macaulay, A.C., Salsberg, J., Jagosh, J., & Seller, R. (2012). Testing the reliability and efficiency of the pilot Mixed Methods Appraisal Tool (MMAT) for systematic mixed studies review. *International Journal of Nursing Studies,49*, 47-53. doi: 10.1016/j.ijnurstu.2011.07.002. Epub 2011 Aug 10. PMID: 21835406.

Page, M.J., McKenzie, J.E., Bossuyt, P.M., Boutron, I., Hoffmann, T.C., Mulrow, C.D., et al. (2021). The prisma 2020 statement: An updated guideline for reporting systematic reviews. *British Medical Journal,372.* https://doi.org/10.1016/j.ijsu.2021.105906

Pavlish, C., Brown-Saltzman, K., So, L., & Wong, J. (2016). Support: An evidence-based model for leaders addressing moral distress. *The Journal of Nursing Administration*,*46*,313-320.

Pergert, P., Bartholdson, C., Blomgren, K., & af Sandeberg, M. (2019). Moral distress in paediatric oncology: Contributing factors and group differences. *Nursing Ethics*,*26*,2351-2363. https://doi.org/10.1177%2F0969733018809806

Porr, C., Gaudine, A., Woo, K., Smith-Young, J., & Green, C. (2019). How community nurses manage ethical conflicts: A grounded theory study. *Global Qualitative Nursing Research*,*6*. https://doi.org/10.1177%2F2333393619894958

Prestia, A.S., Sherman, R.O., & Demezier, C. (2017). Chief nursing officers' experiences with moral distress. *JONA: The Journal of Nursing Administration*,*47*,101-107.

Prompahakul, C., Keim-Malpass, J., LeBaron, V., Yan, G., & Epstein, E.G. (2021). Moral distress among nurses: A mixed-methods study. *Nursing Ethics* https://doi.org/10.1177%2F0969733021996028

Rathert, C., May, D.R., & Chung, H.S. (2016). Nurse moral distress: A survey identifying predictors and potential interventions. *International Journal of Nursing Studies*,*53*,39-49. https://doi.org/10.1016/j.ijnurstu.2015.10.007

Reader, R.L. (2015). Students' experiences in associate degree nursing programs: A qualitative study looking at moral distress. *Teaching & Learning in Nursing*,*10*,118-123. https://doi.org/10.1016/j.teln.2015.05.001

Renno, H.M.S., Ramos, F.R.S., & Brito, M.J.M. (2018). Moral distress of nursing undergraduates: Myth or reality? *Nursing Ethics*,*25*,304-312. https://doi.org/10.1177%2F0969733016643862

Rezaee, N., Mardani-Hamooleh, M., & Ghaljeh, M. (2019). Ethical challenges in cancer care: A qualitative analysis of nurses' perceptions. *Research & Theory for Nursing Practice*,*33*,169-182. DOI: 10.1891/1541-6577.33.2.169

Ritchie, V., O'Rourke, T., & Stahlke, S. (2018). Nurse practitioners' experiences of moral distress in the continuing care setting. *Journal for Nurse Practitioners*,*14*,745-752. https://doi.org/10.1016/j.nurpra.2018.07.021

Robaee, N., Atashzadeh-Shoorideh, F., Ashktorab, T., Baghestani, A., & Barkhordari-Sharifabad, M. (2018). Perceived organizational support and moral distress among nurses. *BMC Nursing*,*17*,1-N.PAG. https://doi.org/10.1186/s12912-017-0270-y

Robinson, R., & Stinson, C.K. (2016). Moral distress: A qualitative study of emergency nurses. *Dimensions of Critical Care Nursing*,*35*,235-240

Royal College of Nursing (RCN). (2019). *RCN employment survey 2019*. Retrieved from: https://www.rcn.org.uk/professional-development/publications/pub-007927.

Ryan, C., Bergin, M., & Wells, J. (2017). Valuable yet vulnerable—a review of the challenges encountered by older nurses in the workplace. *International Journal of Nursing Studies,72*,42-52. https://doi.org/10.1016/j.ijnurstu.2017.04.006

Sarkoohijabalbarezi, Z., Ghodousi, A., & Davaridolatabadi, E. (2017).The relationship between professional autonomy and moral distress among nurses working in children's units and pediatric intensive care wards. *International Journal of Nursing Sciences*,*4*,117-121. https://doi.org/10.1016/j.ijnss.2017.01.007

Sauerland, J., Marotta, K., Peinemann, M.A., Berndt, A., & Robichaux, C. (2014). Assessing and addressing moral distress and ethical climate, part 1. *Dimensions of Critical Care Nursing,33*,234-245. doi: 10.1097/DCC.0000000000000050

Shashidhara, S., & Kirk, S. (2020). Moral distress: A framework for offering relief through debrief. *The Journal of Clinical Ethics,31*,364-371

Silverman, H.J., Kheirbek, R.E., Moscou-Jackson, G., & Day, J. (2021). Moral distress in nurses caring for patients with Covid-19. *Nursing Ethics*. https://doi.org/10.1177%2F09697330211003217

Soleimani, M.A., Sharif, S.P., Yaghoobzadeh, A., Sheikhi, M.R., Panarello, B., & Win, M.T.M. (2019). Spiritual well-being and moral distress among Iranian nurses. *Nursing Ethics*,*26*,1101-1113. https://doi.org/10.1177%2F0969733016650993

Stelnicki, A.M., & Carleton, R.N. (2020). Mental disorder symptoms among nurses in Canada. *Canadian Journal of Nursing Research*. https://doi.org/10.1177%2F0844562120961894

Stovall, M., Hansen, L., & van Ryn, M. (2020). A critical review: Moral injury in nurses in the aftermath of a patient safety incident. *Journal of Nursing Scholarship*,*52*,320-328. https://doi.org/10.1111/jnu.12551

Sun, X., Cao, F., Yao, J., & Chen, L. (2012). Research in validity and reliability of the Chinese version of moral distress scale. *Chinese Journal of Practical Nursing, 52*-55.

Tahghighi, M., Rees, C.S., Brown, J.A., Breen, L.J., & Hegney, D. (2017). What is the impact of shift work on the psychological functioning and resilience of nurses? An integrative review. *Journal of Advanced Nursing,73*,2065-2083. https://doi.org/10.1111/jan.13283

Thomas, J. & Harden, A. (2008). Methods for the thematic synthesis of qualitative research in systematic reviews. *BMC Medical Research Methodology*,*8*,1-10. https://doi.org/10.1186/1471-2288-8-45

Trautmann, J., Epstein, E., Rovnyak, V., & Snyder, A. (2015). Relationships among moral distress, level of practice independence, and intent to leave of nurse practitioners in emergency departments: Results from a national survey. *Advanced Emergency Nursing Journal*,*37*,134-145. doi: 10.1097/TME.0000000000000060

Varcoe, C., Pauly, B., Storch, J., Newton, L., & Makaroff, K. (2012). Nurses' perceptions of and responses to morally distressing situations. *Nursing Ethics*,*19*,488-500. https://doi.org/10.1177%2F0969733011436025

Wands, B.A. (2018). A survey of moral distress in certified registered nurse anesthetists: A theoretical perspective for change in ethics education for advance practice nurses. *International Journal of Nursing Sciences*,*5*,121-125. https://doi.org/10.1016/j.ijnss.2018.03.006

Wiegand, D.L, & Funk, M. (2012) Consequences of clinical situations that cause critical care nurses to experience moral distress. *Nursing Ethics*,*19*,479-487. https://doi.org/10.1177%2F0969733011429342

Wilson, M.A., Goettemoeller, D.M., Bevan, N.A., & McCord, J.M. (2013). Moral distress: Levels, coping and preferred interventions in critical care and transitional care nurses. *Journal of Clinical Nursing*,*22*,1455-1466. https://doi.org/10.1111/jocn.12128

Wocial, L.D., & Weaver, M.T. (2013). Development and psychometric testing of a new tool for detecting moral distress: The moral distress thermometer. *Journal of Advanced Nursing,69*, 167-174. https://doi.org/10.1111/j.1365-2648.2012.06036.x

Wojtowicz, B., Hagen, B., & Van Daalen-Smith, C. (2014). No place to turn: Nursing students' experiences of moral distress in mental health settings. *International Journal of Mental Health Nursing*,*23*,257-264. https://doi.org/10.1111/inm.12043

Wolf, L.A., Perhats, C., Delao, A.M., Moon, M.D., Clark, P.R., & Zavotsky, K.E. (2016). “It’s a burden you carry”: Describing moral distress in emergency nursing. *JEN: Journal of Emergency Nursing*,*42*,37-46. https://doi.org/10.1016/j.jen.2015.08.008

Woods, M. (2020). Moral distress revisited: The viewpoints and responses of nurses. *International Nursing Review*,*67*,68-75. https://doi.org/10.1111/inr.12545

Woods, M., Rodgers, V., Towers, A., & La Grow, S. (2015).Researching moral distress among New Zealand nurses: A national survey. *Nursing Ethics*,*22*,117-130. https://doi.org/10.1177%2F0969733014542679

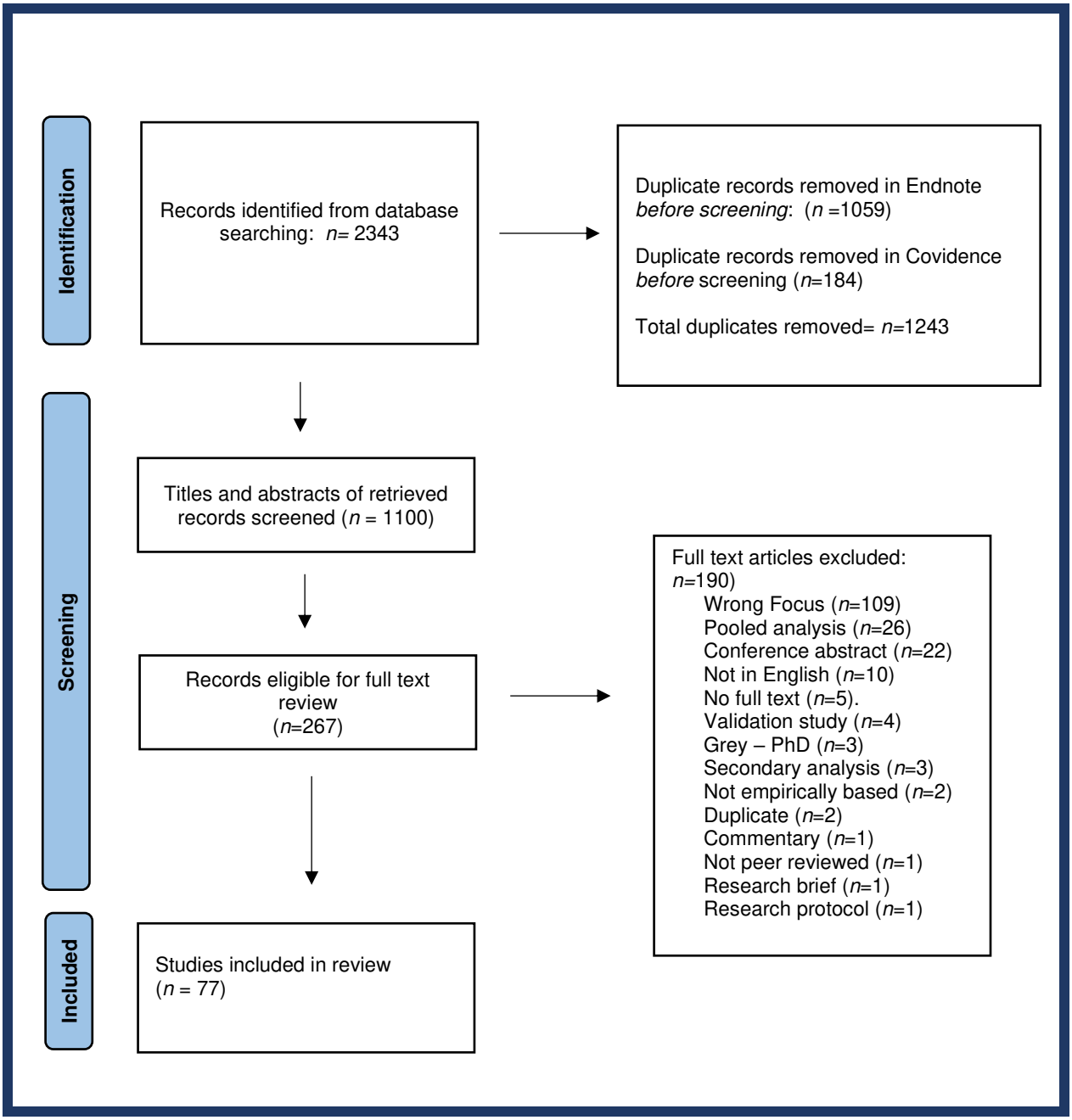
World Health Organisation. (2021). Global Strategic Directions for Nursing and Midwifery (2021-2025). Retrieved from: The WHO Global Strategic Directions for Nursing and Midwifery (2021–2025)

World Health Organisation. (2020). State of the World’s Nursing 2020: Investing in education, jobs and leadership. Retrieved from: State of the world's nursing 2020: investing in education, jobs and leadership (who.int)

Yeganeh, M.R., Pouralizadeh, M., & Ghanbari, A. (2019). The relationship between professional autonomy and moral distress in ICU nurses of Guilan University of Medical Sciences in 2017. *Nursing Practice Today*,*6*,133-141. https://doi.org/10.18502/npt.v6i3.1256

Zheng, R., Zhou, Y., Fu, Y., Xiang, Q., Cheng, F., Chen, H., et al. (2021). Prevalence and associated factors of depression and anxiety among nurses during the outbreak of Covid-19 in China: A cross-sectional study. *International Journal of Nursing Studies, 14*,103809. https://doi.org/10.1016/j.ijnurstu.2020.103809

Figure 1: PRISMA 2020 flow diagram for new systematic reviews which included searches of databases and registers only



Adapted from: Page, McKenzie, Bossuyt, Boutron, Hoffmann, Mulrow, Shamseer, Tetzlaff, Akl and Brennan (2021).

Table 1 Synopsis of included quantitative studies

Study author (year)	Country	Study Design	Study setting	Study participants	Sample size	Data collection measure
Abdolmaleki et al. (2019)	Iran	Cross sectional survey	Hospital: Emergency departments	Emergency department nurses	173	Hamric et al.'s Moral Distress Scale-Revised (2012)
Ajoudani et al. (2019)	Iran	Cross sectional survey	Teaching hospitals	Nurses	278	Hamric et al.'s Moral Distress Scale-Revised (2012)
Alberto Fruet et al. (2019)	Brazil	Cross-sectional survey	Hospital: Haematology-Oncology	Nurses, nursing technicians and nursing assistants	46	Moral Distress Scale (MDS) - Brazilian Version
Altaker et al. (2018)	United States	Cross-sectional survey	Hospital: Intensive care	Intensive care nurses	238	Hamric et al.'s Moral Distress Scale-Revised (2012)
Asayesh et al. (2018)	Iran	Cross-sectional survey	Hospital: Intensive care	Intensive care nurses	117	Hamric et al.'s Moral Distress Scale-Revised (2012)
Asgari et al. (2019)	Iran	Cross-sectional survey	Social security hospitals	Critical care nurses	142	Hamric et al.'s Moral Distress Scale-Revised (2012)
Bayat et al. (2019)	Iran	Cross-sectional survey	Hospitals	Nurses	300	Corley et. al.'s (2001) Moral Distress Scale
Berhie et al. (2020)	Ethiopia	Cross-sectional survey	Regional state referral hospital	Nurses	412	Hamric et al.'s Moral Distress Scale-Revised (2012).
Borhani et al. (2014)	Iran	Cross-sectional survey	Teaching hospital	Nurses	220	Corley et. al.'s (2001) Moral Distress Scale
Browning (2013)	United States	Cross-sectional survey	Hospital: Critical care units	Critical care nurses	277	Corley et. al.'s (2001) Moral Distress Scale
Christodoulou-Fella et al. (2017)	Cyprus	Cross-sectional survey	Psychiatric care	Psychiatric Nurses	206	Hamric et al.'s Moral Distress Scale-Revised (2012)

Davis et al. (2012)	United States	Cross-sectional survey	Hospital	Registered nurses	1114	Hamric et al.'s Moral Distress Scale-Revised (2012)
Delfrate et al. (2018)	Italy	Cross-sectional survey	Hospital	Registered psychiatric nurses	228	Canciani et. al.'s (2016) Moral Distress Scale for Psychiatric Nurses (Italian, revised)
Dodek et al. (2019)	Canada	Cross-sectional survey	Hospital: intensive care units	Intensive care nurses	428	Hamric et al.'s Moral Distress Scale-Revised (2012)
Dyo et al. (2016)	United States	Cross-sectional survey	Hospital	Registered Nurses	279	Corley et. al.'s (2001) Moral Distress Scale
Emmamally and Chiyangwa (2020)	South Africa	Cross-sectional survey	Private Hospital	Critical care nurses	74	Hamric et al.'s Moral Distress Scale-Revised (2012).
Evanovich Zavotsky and Chan (2016)	United States	Cross-sectional survey	Hospital: Emergency department	Emergency Department Nurses	198	Hamric et al.'s Moral Distress Scale-Revised (2012).
Fard et al. (2020)	Iran	Cross sectional survey.	Public and private hospitals	Nurses	150	Corley et. al.'s (2001) Moral Distress Scale
Fernandez-Parsons et al. (2013)	United States	Cross-sectional survey	Hospital: Emergency department	Emergency Department Registered Nurses	51	Hamric et al.'s Moral Distress Scale-Revised (2012).
DeKeyser Ganz et al. (2013)	Israel	Cross-sectional survey	Hospital: Intensive care units	Intensive care nurses	291	Corley et. al.'s (2001) Moral Distress Scale
Haghighinezhad et al. (2019)	Iran	Cross-sectional survey	Hospital: Intensive care units	Intensive care nurses	284	ICU Nurses' Moral Distress Scale
Hamaideh (2014) N=130	Jordan	Cross-sectional survey	Hospitals and clinics	Mental health nurses	130	Moral Distress Scale for Psychiatric Nurses
Harorani et al. (2019)	Iran	Cross-sectional survey	Hospital: ICU, cardiac care, and dialysis units	Nurses	300	Corley et. al.'s (2001) Moral Distress Scale
Hatamizadeh et al. (2019)	Iran	Cross-sectional survey	Hospital	Nurses	276	Corley et. al.'s (2001) Moral Distress Scale

Hiler et al. (2018)	United States	Cross-sectional survey	Hospitals: Critical care units	Critical care nurses	328	Hamric et al.'s Moral Distress Scale-Revised (2012).
Hou et al. (2021)	China	Cross-sectional survey	Public hospitals: emergency department	Emergency department nurses	291	Sun et al.'s (2012) Chinese Version of Moral Distress Scale-Revised (MDS-R)
Karanikola et al. (2014) Italy	Italy	Cross-sectional survey	International nursing conference	Intensive care nurses	556	Corley et. al.'s (2001) Moral Distress Scale
Krautscheid et al. (2020)	United States	Pilot, cross-sectional survey	University	Senior nursing students	60	Wocial and Weaver's (2013) moral distress thermometer (MDT)
Latimer et al. (2021)	United States	Pilot, cross-sectional survey	Hospital	Ventricular assistance device (VAD) coordinators (nurses)	36	Moral distress scale
Laurs et al. (2020)	Lithuania	Cross-sectional survey	Municipal hospitals	Registered nurses	612	Hamric et al.'s Moral Distress Scale-Revised (2012).
Moaddaby et al. (2021)	Iran	Cross-sectional survey	Hospitals: intensive care units	Intensive care nurses	155	Corley et. al.'s (2001) Moral Distress Scale
O'Connell (2015)	United States	Cross sectional survey	Internet nursing community	Critical care nurses	31	Hamric et al.'s Moral Distress Scale-Revised (2012)
Pergert et al. (2019)	Sweden	Cross-sectional survey	Hospital: oncology department,	Paediatric Nurses	278	Swedish Moral Distress Scale - Revised
Rathert et al. (2016)	United States	Cross-sectional survey	Trauma hospitals	Trauma nurses	290	Study-specific and included one item about moral distress
Robaee et al. (2018)	Iran	Cross-sectional survey	Hospital	Nurses	110	The ICU nurses' Moral Distress Scale
Sarkoohijabalbarezi et al. (2017)	Iran	Cross-sectional survey	Hospital	Paediatric Nurses	120	Hamric et al.'s Moral Distress Scale-Revised (2012).
Soleimani et al. (2019)	Iran	Cross-sectional survey	Hospital	Nurses	193	Hamric et al.'s Moral Distress Scale-Revised (2012)

Trautmann et al. (2015)	United States	Cross-sectional survey	Hospital: emergency department	Emergency department nurse practitioners	207	Hamric et al.'s Moral Distress Scale-Revised (2012).
Wands (2018)	United States	Cross-sectional survey	Hospital	Registered nurse anaesthetists	134	Ethical Stress Scale (ESS)
Wilson et al. (2013)	United States	Cross-sectional survey	Hospital: critical care nurses	Critical care nurses	105	Corley et. al.'s (2001) Moral Distress Scale
Woods et al. (2015)	New Zealand	Cross-sectional survey	Hospital	Registered nurses	412	Hamric et al.'s Moral Distress Scale-Revised (2012).
Yeganeh et al. (2019)	Iran	Cross-sectional survey	Hospital: intensive care	Intensive care nurses	180	Corley et. al.'s (2001) Moral Distress Scale

Table 2 Synopsis of included qualitative studies

Study author and year Country	Country	Study Design	Study Setting	Participants	Sample size	Data Collection
Atashzadeh et al. (2012)	Iran	Qualitative descriptive research	Hospital	Intensive care nurses and educators	31	Individual interviews
Caram et al. (2019)	Brazil	Qualitative descriptive research	Hospital: Intensive care and surgical units	Intensive care and surgical nurses	13	Observation and semi-structured interviews
Choe et al. (2015)	South Korea	Phenomenology	Hospital: critical care setting	Critical care nurses	14	In-depth, individual interviews
Crespo Drago et al. (2020)	Brazil	Qualitative descriptive research	Hospital	Nurse managers	17	Individual interviews and comic book completion
Deady and McCarthy (2010)	Ireland	Qualitative descriptive research	Acute psychiatric wards	Registered psychiatric nurses	8	Individual interviews
de Brasi et al. (2021)	Italy	Phenomenology	Hospital	Onco-haematology nurses	28	Individual interviews
de Sousa Vilela et al. (2021)	Brazil	Qualitative descriptive research	Hospital: intensive care	Intensive care nurses	12	Individual interviews
Escolar Chua and Magpantay (2019)	Philippines	Qualitative descriptive research	University	Senior nursing students	14	Individual interviews
Forozeiya et al. (2019)	Canada	Qualitative descriptive research	Hospital: Intensive care	Intensive care nurses	7	Individual interviews
Harrowing and Mill (2010)	Uganda	Ethnographic study	Referral centre	Nurses	24	Ethnographic methods
Hsun-Kuei et al. (2018)	Taiwan	Grounded theory	Teaching hospitals	Staff nurses	25	Interviews

Jansen et al. (2020)	Norway	Qualitative descriptive research	Hospitals	Registered Psychiatric nurse specialists	16	Individual interviews
Ko et al. (2019)	Taiwan	Phenomenology	Hospital	Nurses	32	Individual interviews
Maluwa et al. (2012)	Malawi	Qualitative descriptive research	Various settings in one region of Malawi	Nurses	20	Individual interviews
Musto and Schreiber (2012)	Canada	Grounded Theory	Inpatient and community care	Registered nurses and registered psychiatric nurses	12	Individual interviews
Nikbakht Nasrabadi et al. (2018)	Iran	Phenomenology	Hospital	Nurse managers	14	Individual interviews
Pavlish et al. (2016)	United States	Qualitative descriptive research	Association of nurse leaders	Nurse leaders	100	Critical incident narratives
Porr et al. (2019)	Canada	Grounded theory	Community	Registered nurses	24	Individual interviews
Prestia et al. (2017)	United States	Qualitative exploratory study	Various states across the United States	Chief Nursing Officers	20	Individual interviews
Reader (2015)	United States	Narrative research	University	Nursing students	15	Individual interviews
Renno et al. (2018)	Brazil	Qualitative descriptive research	University	Undergraduate nursing students	58	Focus group interviews
Rezaee et al. (2019)	Iran	Qualitative descriptive research	Hospitals	Oncology nurses	25	Individual interviews
Ritchie et al. (2018)	Canada	Qualitative descriptive research	Urban setting in Western Canada	Nurse practitioners	6	Individual interviews

Robinson and Stinson (2016)	United States	Phenomenology	Hospital: emergency department	Emergency department nurses	8	Individual interviews
Silverman et al (2021)	United States	Qualitative descriptive research	Hospital	Acute care nurses	31	Individual interviews and focus groups
Wiegand and Funk (2012)	United States	Qualitative descriptive study	Hospital	Critical care nurses	47	Open-ended survey
Wojtowicz et al. (2014)	Canada	Naturalistic Enquiry	University	Nursing students	7	Individual interviews
Wolf et al. (2016)	United States	Qualitative exploratory research	Conference	Emergency department nurses	17	Focus groups
Woods (2020)	New Zealand	Qualitative descriptive research	Hospital	Nurses	140	Qualitative survey

Table 3: Synopsis of included mixed methods studies

Study author and year	**Country**	**Design**	**Setting**	**Participants**	**Sample**	**Data collection**
Langley et al. (2015)	South Africa	Mixed-methods	Hospital: intensive care	Intensive care nurses	65	Bespoke survey Focus groups (*n*=4)
Mehlis et al. (2018)	Germany	Prospective mixed-methods	Hospital	Oncologists and oncology nurses	89 (50 nurses)	Survey
Krautscheid et al. (2017)	United States	Mixed-methods	University	Senior nursing students	267	Survey Demographic data Moral Distress Thermometer and a written narrative describing clinical situations contributing to moral distress
Prompahakul et al. (2021)	Thailand	Mixed methods	Hospital	General Nurses	472 (survey) 20 (Interviews)	Survey Interviews
Sauerland et al. (2014)	United States	Mixed methods	Hospital	Acute and critical care registered nurses	225	Survey with open ended questions
Varcoe et al. (2012)	Canada	Mixed methods	Hospital	Nurses	292	Survey with open ended questions

SUPPLEMENTARY MATERIAL: Table 1 Characteristics of included studies

Study author (year) Country	Study Design	Data Source Sample size Setting	Aim	Measure	Analysis	MMAT SCORE	Findings
Abdolmaleki et al. (2019) Iran	Cross sectional survey	Emergency department nurses N=173 Emergency departments in university hospitals	To investigate the relationship between professional independence and moral distress in nurses working in emergency departments.	Hamric et al.'s Moral Distress Scale-Revised (2012)	Descriptive and inferential statistics	100%	**RQ1** Negative relationships were found between professional autonomy and moral distress and age and moral distress.
Ajoudani et al. (2019) Iran	Cross sectional survey	Nurses N=278 Teaching hospitals	To investigate the relationship between moral distress and burnout in Iranian nurses, as mediated by perceptions of workplace bullying.	Hamric et al.'s Moral Distress Scale-Revised (2012)	Descriptive and inferential statistics	100%	**RQ1** Nurses' moral distress was associated with their perceived workplace bullying.
Alberto Fruet et al. (2019) Brazil	Cross-sectional survey	Nurses, nursing technicians and nursing assistants N=46 Haematology-Oncology in a hospital	To identify the frequency and intensity of moral distress, and analyse the associations between moral distress and sociodemographic and labour characteristics.	Moral Distress Scale (MDS) - Brazilian Version	Descriptive and inferential statistics	100%	**RQ1** Greater intensity of moral distress was connected to the denial of nurses' advocacy role and disrespecting patient autonomy. **RQ2B** Nurses face inconsistencies between personal and professional values that they cannot manage. As a result, they choose to leave the profession because they lack support in coping with these situations.
Altaker et al. (2018) United States	Cross-sectional survey	Intensive care nurses N=238 Hospital	To evaluate relationships among moral distress, empowerment, ethical climate, and access to palliative care in the ICU.	Hamric et al.'s Moral Distress Scale-Revised (2012)	Descriptive and inferential statistics	100%	**RQ1** Ethical climate, access to palliative care teams, unit size, ethnicity, and type of educational degree contributed to variance in moral distress.

Asayesh et al. (2018) Iran	Cross-sectional survey	Intensive care nurses N=117 Hospital	To examine the relationship between futile care perception and moral distress.	Hamric et al.'s Moral Distress Scale-Revised (2012)	Descriptive and inferential statistics	50%	**RQ1** There were statistically significant relationships between nurses' perceptions of severity and frequency of futile care and moral distress. Experience of ICU care correlated with moral distress.
Asgari et al. (2019) Iran	Cross-sectional survey	Critical care nurses N=142 Social security hospitals	To determine the relationship between moral distress and ethical climate with job satisfaction	Hamric et al.'s Moral Distress Scale-Revised (2012)	Descriptive and inferential statistics	50%	**RQ1** Nurses experienced the highest frequency of moral distress when performing unnecessary tests and treatments. Helping doctors who were not competent caused the highest-level of moral distress intensity. **RQ2B** Participants had a history of leaving their clinical positions.
Bayat et al. (2019) Iran	Cross-sectional survey	Nurses N= 300 Hospitals	To determine the relationship between nurses' moral distress and ethical climate	Corley et. al.'s (2001) Moral Distress Scale	Descriptive and inferential statistics	75%	**RQ1** A statistically significant inverse relationship between hospital ethical climate and moral distress was identified. The subdomains of ethical climate (colleagues, patients, hospital, and physicians) had a statistically significant relationship with moral distress, with the exception of managers.
Berhie et al. (2020) Ethiopia	Cross-sectional survey	Nurses N= 412 Regional state referral hospital	To assess the proportion of moral distress and associated factors	Hamric et al.'s Moral Distress Scale-Revised (2012).	Descriptive and inferential statistics	100%	**RQ1** Perceived poor communication, perceived powerlessness in decision making, inadequate staffing, and inappropriate provision of care were associated with moral distress
Borhani et al. (2014) Iran	Cross-sectional survey	Nurses N=220 Teaching hospital	To examine the relationship between moral distress, professional stress, and intent to stay in nursing.	Corley et. al.'s (2001) Moral Distress Scale	Descriptive and inferential statistics	25%	**RQ1** Nurses had medium levels of moral distress and professional stress. Emotional involvement with patients' problems and their relatives were important sources of stress. **RQ2b** The majority of nurses did not intend to leave the profession.

Browning (2013) United States	Cross-sectional survey	Critical care nurses N= 277 Critical care units	To describe the relationships between moral distress, psychological empowerment and demographics in critical care nurses caring for patients at the end of life.	Corley et. al.'s (2001) Moral Distress Scale	Descriptive and inferential statistics	50%	**RQ1** The study confirmed a relationship between self-determination and moral distress frequency, particularly when managing difficult situations related to aggressive care and futility. Nurses who experienced greater moral distress related to deception were more likely to attach greater meaning to their work, have higher levels of autonomy and more influence at work.
Christodoulou-Fella et al. (2017) Cyprus	Cross-sectional survey	Psychiatric Nurses N= 206 Psychiatric care	To explore the frequency and intensity of morally distressing situations, the severity of symptoms of secondary traumatic stress syndrome (STSS) and the association among moral distress and STSS with sociodemographic factors and work-related features	Hamric et al.'s Moral Distress Scale-Revised (2012)	Descriptive statistics and inferential statistics	75%	**RQ1** Items with the highest morally distressing intensity and frequency included working with incompetent colleagues, unnecessary or unconsented treatment, suspicions of abuse, or unsafe patient-staff ratios. **RQ2B** 20% reported intention to leave their job due to moral distress.
Davis et al. (2012) United States	Cross-sectional survey	Registered nurses N=1114 Hospital	To explore influences identified by nurses as having an impact on their ethical beliefs and whether these influences might impact levels of moral distress and the potential for conscientious objection	Hamric et al.'s Moral Distress Scale-Revised (2012).	Descriptive and inferential statistics	50%	**RQ1** Providing patient care that nurses did not ethically condone despite their spiritual beliefs generated moral distress. **RQ2B** 27.7% (n=317) reported leaving a job due to moral distress.
Delfrate et al. (2018) Italy	Cross-sectional survey	Registered psychiatric nurses N=228 Hospital	To assess the presence of moral distress among mental health nurses in Italy and verify whether there is a relationship	Canciani et. al.'s (2016) Moral Distress Scale for Psychiatric Nurses	Descriptive and inferential statistics	50%	**RQ1** Insufficient material and human resources and lack of acknowledgement of nurses' competence by other staff contributed to moral distress.

			between moral distress and burnout.	(Italian, revised)			
Dodek et al. (2019) Canada	Cross-sectional survey	Intensive care nurses N= 669 (428 nurses) Intensive care units	To assess the association between moral distress and general workplace distress in ICU staff.	Hamric et al.'s Moral Distress Scale-Revised (2012)	Descriptive and inferential statistics	25%	**RQ1** Moral distress was associated with less control over decisions and lower social support, and with increased psychological stressors and strain.
Dyo et al. (2016) United States	Cross-sectional survey	Registered Nurses N= 279 Hospital	To assess moral distress intensity and frequency in adult/ paediatric nurses in critical care and non-critical care units, and explore relationships between nurse characteristics and moral distress with intention to leave	Corley et. al.'s (2001) Moral Distress Scale	Descriptive statistics	50%	**RQ 2B**. Moral distress frequency showed a positive relationship with intention to leave a position of employment.
Emmamally and Chiyangwa (2020) South Africa	Cross-sectional survey	Critical care nurses N=74 Private Hospital	To determine the frequency, intensity and overall severity of moral distress	Hamric et al.'s Moral Distress Scale-Revised (2012).	Descriptive and inferential statistics	50%	**RQ1** Providing futile or excessively aggressive treatment to patients contributed most to moral distress.
Evanovich Zavotsky and Chan (2016) United States	Cross-sectional survey	Emergency Department Nurses N=198 Hospital	To examine moral distress in Emergency Department nurses and its relationship to coping.	Hamric et al.'s Moral Distress Scale-Revised (2012).	Descriptive statistics	50%	**RQ2B** 51% (n=101) reported they had neither considered leaving nor had left a position because of moral distress whereas 36.9% (n=73) had considered leaving and 12.1% (n=24) had left a previous position because of moral distress. 30.3% (n=60) were considering leaving their current position because of moral distress.
Fard et al. (2020) Iran	Cross sectional survey.	Nurses N=150 Public and private hospitals	To determine the association of moral distress with sleep quality in nurses and to compare among nurses working in	Corley et. al.'s (2001) Moral Distress Scale	Descriptive statistics and inferential statistics	25%	**RQ2A** Moral distress had an impact on nurses including sleep disruption.

			private and public hospitals				
Fernandez-Parsons et al. (2013) United States	Cross-sectional survey	Emergency Department Registered Nurses N=51 Hospital	To explore the frequency of moral distress, intensity of moral distress, and situations that increase moral distress	Hamric et al.'s Moral Distress Scale-Revised (2012).	Descriptive and inferential statistics	25%	**RQ1** Following families' wishes that were not in the best interest of the patient, unnecessary orders, prolonging death, and poor communication in the team contributed to moral distress. Unsafe staffing levels and less competent colleagues were commonly noted as causes of moral distress. **RQ2b** Moral distress was the reason given by 6.6% of registered nurses for leaving a previous position, 20% said that they had considered leaving a position but did not, and 13.3% stated that they were considering leaving their position because of moral distress.
DeKeyser Ganz et al. (2013) Israel	Cross-sectional survey	Intensive care nurses N=291 Intensive care units	Aim To determine levels of structural empowerment, moral distress, and the association between them.	Corley et. al.'s (2001) Moral Distress Scale	Descriptive and inferential statistics	50%	**RQ1** There was a weak but statistically significant correlation between empowerment and moral distress. Predictors of moral distress frequency included type of unit and access to resources. Predictors of moral distress intensity included seniority and specialism type, as well as part-time status.
Haghighinezhad et al. (2019) Iran	Cross-sectional survey	Intensive care nurses N=284 Hospitals	To investigate the relationship between perceived organisational justice and moral distress	ICU Nurses' Moral Distress Scale	Descriptive and inferential statistics	50%	**RQ1** There was a negative relationship between nurses' perceptions of organizational justice (the fairness of procedures and efforts) and moral distress.
Hamaideh (2014) N=130 Jordan	Cross-sectional survey	Mental health nurses N=130 Hospitals and clinics	To describe the levels of moral distress experienced by Jordanian mental health nurses, to examine the relationships of moral distress with nurses' job satisfaction, intention to leave the job,	Moral Distress Scale for Psychiatric Nurses	Descriptive statistics	50%	**RQ2B** Moral distress was higher among younger nurses, nurses with low-income level, nurses with less experience, nurses working in wards with higher caseloads, nurses with higher educational levels, and nurses who intended to leave their current job.

			and burnout, as well as to identify the predictors of moral distress.				
Harorani et al. (2019) Iran	Cross-sectional survey	Nurses N=300 ICU, cardiac care, and dialysis units	To determine the average frequency and intensity of moral distress, and its relationship with self-efficacy.	Corley et. al.'s (2001) Moral Distress Scale	Descriptive and inferential statistics	25%	**RQ1** A statistically significant negative relationship between self-efficacy and moral distress was identified
Hatamizadeh et al. (2019) Iran	Cross-sectional survey	Nurses N=276 Hospital	To assess the implications of Iran's recent health care reforms on nurses' experience of moral distress, their perceptions of the respect for patient rights and the relationship of these variables to job and income dissatisfaction	Corley et. al.'s (2001) Moral Distress Scale	Comparison statistics	50%	**RQ2B** Moral distress intensity and frequency was positively correlated with turnover intention. Turnover intention increased by 0.307 for each unit of moral distress intensity and 0.524 units for the moral distress frequency score. Nurses who worked in circular shifts had a score 0.188 higher than nurses with constant shifts for turnover intention.
Hiler et al. (2018) United States	Cross-sectional survey	Critical care nurses N=328 Teaching hospitals	To explore the relationships among the severity of moral distress, the practice environment, and patient safety	Hamric et al.'s Moral Distress Scale-Revised (2012).	Descriptive and predictive statistics	50%	**RQ1** High levels of moral distress occurred when nurses deemed that the care provided was futile. The highest moral distress frequency occurred when the wishes of the patient's family were not in the best interest of the patient. Additionally, as the practice environment deteriorated, the level of moral distress was higher.
Hou et al. (2021) China	Cross-sectional survey	Emergency department nurses N=291 Public hospitals	To explore relationships between moral distress, ethical climate, and nursing practice environment among a sample of Emergency Department nurses and determine significant predictors of moral	Sun et al.'s (2012) Chinese Version of Moral Distress Scale-Revised (MDS-R)	Descriptive and predictive statistics	100%	**RQ1** Poor collaboration between nurses and doctors caused moral distress. Futile care, families' decisions that were not in the patients' best interests, power imbalance and differing expectations of patient care also contributed to moral distress. **RQ2B** 108 (48.21%) participants answered that they had never left or considered leaving their clinical position because of moral distress, whereas 2 (0.89%) had left a position and 114 (50.89%) had

			distress in organisational environments				considered leaving but did not leave due to moral distress. In addition, 30 (13.45%) participants were considering leaving their current position while 193 (86.55%) were not. There were significant differences regarding the level, frequency, and intensity of moral distress among the groups that had ever left or considered leaving or were presently considering leaving their current position (all P <0.05).
Karanikola et al. (2014) Italy <u>Aim</u>	Cross-sectional survey	Intensive care nurses N=556 Nursing international conference	To explore the level of moral distress and potential associations between moral distress indices and (1) nurse-physician collaboration, (2) autonomy, (3) professional satisfaction, (4) intention to resign, and (5) workload	Corley et. al.'s (2001) Moral Distress Scale	Descriptive and comparison statistics	75%	**RQ1** Moral distress was associated with poor collaboration between doctors and nurses, and dissatisfaction with care decisions. Moral distress was also weakly correlated with staffing ratios. **RQ2B** The frequency of morally distressing situations was associated positively but weakly with (1) job satisfaction and (2) frequency of the intention to resign from post owing to morally distressing situations. The severity of moral distress was associated negatively, however negligibly, with work satisfaction and positively, weakly with an intention to resign from post as a result of morally distressing situations.
Krautscheid et al. (2020) United States	Pilot, cross-sectional survey	Senior nursing students N=60 University	To identify if significant associations exist between protective factors and moral distress ratings.	Wocial and Weaver's (2013) moral distress thermometer (MDT)		50%	**RQ2B**There were weak negative correlations between social support and moral distress and between protective factors and moral distress.
Latimer et al. (2021) United States	Pilot, cross-sectional survey	Ventricular assistance device (VAD) coordinators (nurses)	To explore the association between ventricular assistance device (VAD) coordinators' unique	Moral distress scale	Descriptive and inferential statistics	25%	**RQ1** Poor communication amongst the team and limited end of life education were highlighted added to moral distress.

		N=36 Hospital	roles and responsibilities and moral distress.				
Laurs et al. (2020) Lithuania	Cross-sectional survey	Registered nurses N=612 Municipal hospitals	To describe the level of moral distress experienced by nurses, situations that most often caused moral distress, and the intentions of the nurses to leave the profession.	Hamric et al.'s Moral Distress Scale-Revised (2012).	Descriptive and inferential statistics	75%	**RQ1** Conducting unnecessary tests, providing care that met family wishes but was not in the patients' best interests, and not discussing prognosis with patients or families were noted as reasons for moral distress. **RQ2B** Nurses with high moral distress levels are more likely to consider leaving their position compared with those with moderate or low moral distress levels.
Moaddaby et al. (2021) Iran	Cross-sectional survey	Intensive care nurses N=155 Hospitals	To determine the perception of futile care and its relationship with moral distress	Corley et. al.'s (2001) Moral Distress Scale	Descriptive and inferential statistics	100%	**RQ1** Legal and organisational considerations were statistically significant predictors of moral distress.
O'Connell (2015) United States	Cross sectional survey	Critical care nurses N=31 Internet nursing community	To explore moral distress levels in a sample of critical care nurses to determine whether gender differences exist in moral distress scores.	Hamric et al.'s Moral Distress Scale-Revised (2012	Descriptive and inferential statistics	50%	**RQ1** Women had statistically significantly higher moral distress compared to men
Pergert et al. (2019) Sweden	Cross-sectional survey	Paediatric Nurses N=278 Oncology department, hospital	To explore healthcare professionals' experiences of situations that generate moral distress	Swedish Moral Distress Scale -Revised	Descriptive and inferential statistics	75%	**RQ1** Moral distress was associated with perceptions of lack of competence and poor continuity of personnel.
Rathert et al. (2016) United States	Cross-sectional survey	Trauma nurses N=290 Trauma hospitals	To examine work environment and intrapersonal variables that may influence moral distress	Study-specific and included one item about moral distress	Descriptive and inferential statistics	50%	**RQ1** There was a negative relationship between institutional ethics support and moral distress. A perceived lack of voice contributed to this distress.

Robaee et al. (2018) Iran	Cross-sectional survey	Nurses N=110 Hospital	To determine the level of perceived organisational support and moral distress among nurses and to investigate the relationship between these two variables.	The ICU nurses' Moral Distress Scale	Descriptive and inferential statistics	50%	**RQ1** There was a statistically significant relationship between work shifts and moral distress.
Sarkoohijabalbarezi et al. (2017) Iran	Cross-sectional survey	Paediatric Nurses N=120 Hospital	To investigate the relationship between professional autonomy and moral distress	Hamric et al.'s Moral Distress Scale-Revised (2012).	Descriptive and inferential statistics	50%	**RQ1** There was a significant positive relationship between moral distress and professional autonomy.
Soleimani et al. (2019) Iran	Cross-sectional survey	Nurses N=193 Hospital	To examine the relationship between spiritual well-being and moral distress among a sample of nurses and to study the determinant factors of moral distress and spiritual well-being in nurses.	Hamric et al.'s Moral Distress Scale-Revised (2012)	Descriptive and inferential statistics	75%	**RQ1** Gender and education were independent predictors for moral distress. Factors that became significant following adjustment of other factors for moral distress were shift rotation, tendency to leave jobs, and age.
Trautmann et al. (2015) United States	Cross-sectional survey	Emergency department nurse practitioners N=207 Hospital	To investigate moral distress among emergency department nursing practitioners and to examine relationships between moral distress, level of practice independence, and intent to leave their position.	Hamric et al.'s Moral Distress Scale-Revised (2012).	Descriptive and inferential statistics	25%	**RQ1** Moral distress was associated with poor patient care, inadequate staff communication, and working with incompetent colleagues. **RQ2B** Approximately 25% of participants stated they left a position because of moral distress.
Wands (2018) United States	Cross-sectional survey	Registered nurse anaesthetists N=134 Hospital	To examine the relationship between moral distress, patient safety, and intensive care nurses ethical decision making skills.	Ethical Stress Scale (ESS)	Descriptive and inferential statistics	25%	**RQ1** There was a significant relationship between moral distress and perceived ethical assessment abilities.

Wilson et al. (2013) United States	Cross-sectional survey	Critical care nurses N=105 Hospital	To examine the level and frequency of moral distress in staff nurses working in two units in the critical care division of one hospital and to gather information to potentially guide future support, resources and interventions for moral distress in staff nurses.	Corley et. al.'s (2001) Moral Distress Scale	Descriptive and inferential statistics	25%	**RQ1** Futile and unnecessary care contributed to moral distress. **RQ2B** A high percentage of the nurses surveyed reported having left or considered leaving a position because of morally distressing situations.
Woods et al. (2015) New Zealand	Cross-sectional survey	Registered nurses N=412 Hospital	To determine the frequency and intensity of moral distress experienced by registered nurses in New Zealand and to examine whether or not this distress led to nurses contemplating leaving their current positions	Hamric et al.'s Moral Distress Scale-Revised (2012).	Descriptive and inferential statistics	50%	**RQ1** Management decisions causing suboptimal care, patient care suffering, and working with less competent colleagues caused distress. Poor communication and patient suffering due to lack of care continuity also contributed to moral distress. **RQ2B** 48% reported having considered leaving their position due to moral distress.
Yeganeh et al. (2019) Iran	Cross-sectional survey	Intensive care nurses N=180 Hospitals	To determine the relationship between professional autonomy and moral distress of ICU nurses.	Corley et. al.'s (2001) Moral Distress Scale	Descriptive and inferential statistics	50%	**RQ1** There was a positive and significant relationship between moral distress and total professional autonomy scores.

Qualitative studies

Study author and year Country	Study Design	Data Source Sample size Setting	Aim	Data Collection	Data analysis	MMAT	Findings relevant to review question
Atashzadeh et al. (2012) Iran	Qualitative descriptive research	Intensive care nurses and educators N=31 Hospital	To explore moral distress among ICU nurses in Iran	Individual interviews	Content analysis.	75%	**RQ1** Moral distress was caused by institutional barriers and constraints, difficulties in communicating with patients, colleagues, and families, futile care or errors in care, and poor allocation of resources or responsibilities.
Caram et al. (2019) Brazil	Qualitative descriptive research	Intensive care and surgical nurses N=13 Intensive care and surgical units	To analyse how nurses reach for the telos in their practice within the context of moral distress	Observation and semi-structured interviews	Thematic analysis	100%	**RQ1** Contradictions in work can lead to nurses feeling unable to express nursing virtues in their clinical practice. Managing economic and political priorities in determining care contributed to moral distress.
Deady and McCarthy (2010) Ireland	Qualitative descriptive research	Registered psychiatric nurses N=8 Acute psychiatric wards	To explore psychiatric nurses' experiences of moral distress within acute care settings.	Individual interviews	Thematic analysis	100%	**RQ1** Moral distress occurred when people had difficulty sharing their professional views on decisions they disagreed with. This was more difficult when they believed colleagues did not value their views or senior colleagues would not act upon their concerns. This also occurred when they believed that professional conflict and/or potential legal issues took precedent over patient care, or the standard of care was below their own sense of best practice. **RQ2A** Participants commonly felt self-doubt, guilt, and frustration when experiencing moral distress. **RQ2B**

							Some participants referred to moving job as a coping strategy.
Crespo Drago et al. (2020) Brazil	Qualitative descriptive research	Nurse managers N= 17 Hospital	To describe situations and elements involved in the moral distress process	Individual interviews and comic book completion	Discursive textual analysis	100%	**RQ1** Nurse managers reported that conflicts in the organisation and the team, poor working conditions, lack of autonomy in managing people, and the impact of working as a manager contributed to moral distress.
de Sousa Vilela et al. (2021) Brazil	Qualitative descriptive research	Intensive care nurses N=12 Hospital: intensive care	To understand ethics and moral distress expressions in intensive care nursing practice.	Individual interviews	Thematic content analysis	50%	**RQ1** Nurses experienced moral distress when faced with situations with which they did not agree and could not change and the inability to enact patient advocacy.
Escolar Chua and Magpantay (2019) Philippines	Qualitative descriptive research	Senior nursing students N=14 University	To explore the moral distress and ethical concerns encountered by undergraduate nursing students.	Individual interviews	Thematic analysis	75%	**RQ1** Three themes were identified. Themes described how unprofessional behaviour from other healthcare workers, a sense of powerlessness to change wider issues, and differing expectations on health between the students and the community they cared for contributed to moral distress.
Forozeiya et al. (2019) Canada	Qualitative descriptive research	Intensive care nurses N=7 Hospital: Intensive care	To describe intensive care nurses' experiences of coping with moral distress.	Individual interviews	Thematic analysis	100%	**RQ1** Moral distress was related to a lack of clarity around patients' wishes, others' decisions, and the amount of information provided to families. Another factor that contributed to moral distress was the impact of poor management of end-of-life care. **RQ2A** Nurses felt traumatised, angry, stressed and/or frustrated. The social consequences were that they withdrew from friends and family, and discussed dread of going to work. **RQ2B** Nurses contemplated working fewer hours or ending their employment.

Jansen et al. (2020) Norway	Qualitative descriptive research	Registered Psychiatric nurse specialists N=16 Hospitals	To describe sources of moral distress and what characterises moral distress in acute mental care nursing settings.	Individual interviews	Thematic analysis	75%	**RQ1** Moral distress occurred when nurses felt they had failed their patients; had insufficient time for therapeutic work; contributed to coercive measures in patient care, and refusals to limit patients' autonomy. **RQ2A** The effects moral distress were evident in professional and personal lives, with feelings of frustration, guilt, sadness, inadequacy, and doubt. Some participants doubted their own actions or found less meaning in life/work. When not working, they withdrew from social contact. Poor sleep and high blood pressure were experienced. **RQ2B** Several participants contemplated leaving their jobs.
Maluwa et al. (2012) Malawi	Qualitative descriptive research	Nurses N=20 Various settings in one region of Malawi	To explore the existence of moral distress.	Individual interviews	Thematic analysis	75%	**RQ1** Moral distress was mainly caused by difficulties associated with patient care, colleagues and administration, especially higher authorities.
Pavlish et al. (2016) United States	Qualitative descriptive research	Nurse leaders N=100 Association of nurse leaders	To explore nurse leaders' experiences working in ethically difficult situations and helping nurses cope with moral distress.	Critical incident narratives	Descriptive analysis	25%	**RQ1** Poor work environment, power dynamics and a culture of silence contributed to moral distress. Strained relationships between team members and a lack of awareness of ethics and ethics resources were also factors in moral distress. End-of-life issues were also relevant in moral distress.

Prestia et al. (2017) United States	Qualitative exploratory study	Chief Nursing Officers N=20 Various states across the United States	To explore if moral distress and its lingering residue were experienced by Chief Nursing Officers.	Individual interviews	Content analysis	50%	**RQ1** Moral distress was described as related to issues of salary and staff compensation, financial constraints, managing nurse-to-patient ratios, counter-productive relationships, and authoritative improprieties. **RQ2A** The effects were feeling isolated, powerless, psychologically unsafe, struggling with moral compasses, moral residue, and the need to gather strength from networking.
Renno et al. (2018) Brazil	Qualitative descriptive research	Undergraduate nursing students N=58 University	To identify the existence of moral distress caused by ethical conflict and dilemmas experienced during their nursing education.	Focus group interviews	Thematic content analysis	50%	**RQ1** Teachers' behaviour was sometimes a source of moral distress. Additionally, feeling powerless to resolve ethical dilemmas in health services, such as hierarchy, holding precarious roles, or seeing health professionals using outdated knowledge also contributed to moral distress.
Rezaee et al. (2019) Iran	Qualitative descriptive research	Oncology nurses N=25 Hospitals	To explain nurses' perceptions of ethical challenges in caring for cancer patients in Iran.	Individual interviews	Content analysis	100%	**RQ1** The two factors that caused moral distress were poor communication with patients and families, and provision of futile care that caused suffering to patients.
Ritchie et al. (2018) Canada	Qualitative descriptive research	Nurse practitioners N=6 Urban setting in Western Canada	To understand the experience of moral distress for nurse practitioners in continuing care, exploring similarities and variances in their experiences compared with the general nursing population.	Individual interviews	Interpretive description	50%	**RQ1** Moral distress were caused by the inability to provide good care because of outside constraints, and the impact of perceptions of their roles as nurse practitioners. Power struggles between participants and doctors, institutional policies and expectations colliding with realities of practice, and struggling to meet individuals' demands contributed to moral distress.

Silverman et al (2021) United States	Qualitative descriptive research	Acute care nurses N=31 Hospital	To explore causes of moral distress in nurses caring for Covid-19 patients and identify strategies to enhance their moral resilience.	Individual interviews and focus groups	Qualitative content analysis	75%	**RQ1** Causes of moral distress in participants included a lack of knowledge on how to treat Covid-19, feeling overwhelmed by Covid-19, a fear of being exposed to the virus and providing suboptimal care as a result. Other causes of moral distress included intra-professional tension or poor communication, the impact of policies that prevented them from taking on their role as a nurse, a lack of resources, and practising within crisis standards of care.
Wiegand and Funk (2012) United States	Qualitative descriptive study	Critical care nurses N=47 Hospital	To determine clinical situations that caused critical care nurses to experience moral distress.	Open-ended survey	Thematic analysis	25%	**RQ1** End-of-life issues such as futile care or analgesic medication difficulties caused moral distress. Feeling unheard or providing a lower standard of care were also issues, as well as conflicts with families and colleagues. **RQ2A** Reduced morale, helplessness, exhaustion, depression and anger. **RQ2B** Reduced job satisfaction was also a consequence of moral distress.
Wolf et al. (2016) United States	Qualitative exploratory research	Emergency department nurses N=17 Conference	To explore the nature of moral distress as it is experienced and described by emergency nurses	Focus groups	Constant comparison	100%	**RQ1** Use of technology was identified as a persistent challenge. Patient care was compromised by the requirement for excessive documentation, lack of time, resources, unreliable technology, inadequate staffing and administrative decisions. Power imbalance and role conflicts arose from differing expectations between nurses, physicians, and hospital administrators. **RQ2A** This resulted in feeling powerless, guilty, angry, fearful and frustrated. Physical issues such as fatigue, sleep difficulty, digestive issues, appetite change, and high blood pressure impacted nurses' health. Use

							of unhelpful coping strategies such as food or alcohol also impacted health.
Woods (2020) New Zealand	Qualitative descriptive research	Nurses N=140 Hospital	To discuss causes and effects of moral distress.	Qualitative survey	Thematic analysis	75%	**RQ2A** Unsupportive "system" of institutions, difficulties with managers, bullying or poor practice from colleagues, and the effect of moral residue (including guilt and doubt) contributed to moral distress. **RQ2B** Nurses were struggling under an increasing weight of moral residue to maintain their ethical standards within an increasingly difficult ethical climate.
Harrowing and Mill (2010) Uganda	Ethnographic study	Nurses N=24 Referral centre	To describe the manifestation and impact of moral distress as it was experienced by Ugandan nurses who provided care to HIV infected or affected people.	Ethnographic methods	Thematic analysis	75%	**RQ1** Moral distress occurred when a lack of resources put patients' at risk. **RQ2A** Nurses experiencing moral distress experienced inadequacy, helplessness, and hopelessness. They felt frustrated, traumatised and at risk of burnout. They also experienced fatigue, despair, and negative attitudes to work.
Hsun-Kuei et al. (2018) Taiwan	Grounded theory	Staff nurses N=25 Teaching hospitals	To reconstruct the model of moral distress using grounded theory.	Interviews	Constant comparison	75%	**RQ1** Moral distress was caused by co-workers, the wider system, and Chinese culture. Systemic barriers such as nursing shortage and medical resources waste also contributed to moral distress. **RQ2A** Nurses felt frustrated and angry.
Musto and Schreiber (2012) Canada	Grounded Theory	Registered nurses and registered psychiatric nurses N=12	To develop a substantive theory of the processes mental health nurses use when they experience moral distress.	Individual interviews	Constant comparison	75%	**RQ1** Incidents that effected nurses' abilities to maintain patient safety caused moral distress, along with feeling they had not lived up to the requirements of the nurse-patient relationship.

		Inpatient and community care					**RQ2A** Moral distress caused self-doubt regarding nursing judgements, frustration, anger and powerlessness.
Porr et al. (2019) Canada	Grounded theory	Registered nurses N=24 Community	To uncover the process of behaviours enacted by community nurses when experiencing ethical conflicts.	Individual interviews	Constant comparison	75%	**RQ1** The main source of moral distress was an inability to deliver quality care. Nurses experienced moral distress when struggling with moral dilemmas and conflict. **RQ2A** Nurses experienced moral residue, or lingering distress, when conflicts that caused moral distress were not fully resolved. Moral conflict resulted in frustration, doubt, guilt, and anxiety. Moral residue was an issue for participants.
Reader (2015) United States	Narrative research	Nursing students N=15 University	To describe experiences of moral distress among students enrolled in associate degree nursing programs.	Individual interviews	Thematic: across-case analysis and narrative: within-case analysis	25%	**RQ1** Moral distress was experienced as a result of the negative behaviours displayed by professional staff and nursing faculty members.
Wojtowicz et al. (2014) Canada	Naturalistic Enquiry	Nursing students N=7 University	To explore nursing students' experiences of moral distress during clinical rotations on an inpatient psychiatric unit.	Individual interviews	Inductive thematic analysis	75%	**RQ1** The experience of nursing not living up to previous ideals, hierarchies that left participants feeling powerless, misleading patients or withholding information, and feeling a lack of support about concerns led to moral distress.
De Brasi et al. (2021) Italy	Phenomenology	Onco-haematology nurses N=28 Hospital	To explore the causes of morally distressing events, feelings experienced by nurses and coping strategies utilised.	Individual interviews	Interpretative phenomenological analysis	100%	**RQ1** Poor communication with patients, relatives, or healthcare professionals contributed to moral distress. Being unable to meet patients' wishes in end-of-life care because of family attitudes or feeling forced to conceal the truth from their patients also contributed to moral distress. The participants also identified causes of moral

							distress found in other studies such as working with dangerous staffing levels, doing tasks that they did not feel competent to complete, and providing care that did not relieve patients' suffering.
Choe et al. (2015) South Korea	Phenomenology	Critical care nurses N= 14 Hospital critical care setting	To understand moral distress from the perspective and experience of critical care nurses.	In-depth, individual interviews	Phenomenological using Giorgi's (2009) approach	100%	**RQ1** Unnecessary medical treatments or care that did not allow patients dignity caused moral distress. Observing colleagues (both nursing and medical) who engaged in or covered up unethical practice or lacking autonomy in decision-making over treatment options also contributed to moral distress. Moral distress was also generated by conflicts with institutional policy.
Ko et al. (2019) Taiwan	Phenomenology	Nurses N= 32 Hospital	To analyse the main causes of moral distress.	Individual interviews	Interpretative interactionist analysis	**25%**	**RQ1** Moral distress occurred when patients were not aware of diagnoses, medical decisions did not appear to be optimal for patients, and when patients were not afforded a good death. A lack of confidence, power hierarchies in teams, having strong intentions for good to support patients, and the wider Oriental culture were deemed to exacerbate moral distress.
Nikbakht Nasrabadi et al. (2018) Iran	Phenomenology	Nurse managers N=14 Hospital	To investigate the lived experiences of clinical nurse managers regarding moral distress.	Individual interviews	Thematic analysis	75%	**RQ2a** Moral distress caused a sense of betraying moral principles and caused confusion, anxiety, and concern. Other outcomes of moral distress noted were self-blame and psychological suffering. The feeling that institutional commitments took priority over individuals' obligations contributed to moral distress. **RQ2B** Moral distress led to leaving managerial positions and resignation.

Robinson and Stinson (2016) United States	Phenomenology	Emergency department nurses N=8 Hospital	To determine how emergency nurses define moral distress, experience moral distress and its effectst, and identify strategies to cope.	Individual interviews	Thematic analysis	50%	**RQ1** Participants discussed causes of moral distress including differences in patient care depending on whether the family was present, regret for care they felt forced to provide or guilt about care they gave to patients they preferred not to care for.

Mixed methods studies

Study author and year Country	**Design**	**Setting Participant characteristics**	**Aim**	**Data collection**	**Data analysis**	**MMAT**	**Findings relevant to review question**
Langley et al. (2015) South Africa	Mixed-methods	Intensive care nurses *N*=65 Hospital	To explore and describe nurses' experiences of situations that involve end-of-life care and evoke moral distress, the consequences of these situations and the means used to manage distress.	Bespoke survey instrument Focus groups (*n*=4)	Descriptive statistics Content analysis	25%	**RQ1** Five categories covered nurses' experiences of moral distress: lack of experience or competence by colleagues, a limit on resources available, poor consultation or communication, issues around end of life such as futile care or choosing to withdraw treatment, and a lack of support.
Mehlis et al. (2018) Germany	Prospective mixed-methods	Oncologists and oncology nurses *N*=89 (50 nurses) Hospital	To examine moral distress related to end-of-life decision making in oncologists and oncology nurses.	Survey Moral Distress Thermometer validated German version Open-ended question on causes of moral distress	Descriptive and inferential statistics Content analysis	25%	**RQ1** Treatment limitation for patients with advanced cancer, patients' suffering, and uncertainty about ethical issues contributed to moral distress.
Krautscheid et al. (2017)	Mixed-methods	Senior nursing students	To assess moral distress among	Survey	Descriptive statistics	75%	**RQ1**

United States		*N*=267 University	nursing students, describe ethical dilemmas contributing to moral distress in practice settings, and identify reasons for inaction when encountering dilemmas.	Demographic data Wocial and Weaver's (2013) Moral Distress Thermometer A brief written narrative describing clinical situations contributing to moral distress and reasons for not taking action during distressing situations	Qualitative content analysis		Students reported causes of moral distress included witnessing compromised best practice in care, a lack of respect for patients' dignity, feeling powerless to speak up about issues, and navigating differences between their own and their patients' values.
Prompahakul et al. (2021) Thailand	Mixed methods	General Nurses *N*=472 (survey) *N*=20 (Interviews) Hospital	To describe the experience of moral distress and related factors	Survey Epstein et al.'s (2019). Measure of Moral Distress for Healthcare Professionals (MMD-HP) Interviews	Descriptive and inferential statistics Thematic analysis	75%	**RQ1** Factors that caused moral distress included challenges providing end-of-life care, systems-level issues, work units and prior experiences of moral distress. Feeling powerless, end-of-life issues, and difficulties in teams (such as poor communication, incompetence or unacceptable behaviour of colleagues) prompted moral distress.
Sauerland et al. (2014) United States	Mixed methods survey	Acute and critical care registered nurses *N*=225 Hospital	To explore moral distress, moral residue, and perception of ethical climate among registered nurses in an academic medical centre	Corley et. al.'s (2001) Moral Distress Scale	Descriptive statistics Thematic analysis	25%	**RQ1** Not having time and resources to provide optimal patient care contributed to moral distress, as did paperwork and policies that caused them to perceive that patients' rights came second to institutional policies. The effect of colleagues who were poorly trained, bullies, or unethical also contributed to moral distress. **RQ2A** Psychological distress, loss of confidence and a sense of being

							unsupported. Physical expressions of stress such as alopecia.
Varcoe et al. (2012) Canada	Mixed methods	Nurses *N*=292 Hospital	To identify how nurses experience and respond to morally distressing experiences or the effects of moral distress on patient care.	Survey instrument: Corley et. al.'s (2001) Moral Distress Scale Including open-ended questions	Descriptive statistics Interpretive descriptive analysis	50%	**RQ1** Systemic issues such as overwork or incompetence contributed to moral distress. Patient suffering or being judged also caused distress. **RQ2A** Nurses felt haunted, shocked, anxious, and drained emotionally. They expressed anger and frustration toward institutional situational constraints of workload and their position in the healthcare hierarchy. **RQ2B** Twenty participants reported having left their units or positions or opting for early retirement. 13 planned to leave through early retirement, long-term disability, or transferring to other units. In contrast, a few participants asserted that the moral distress they described 'motivated me' and 'increased my resolve'.

Table 1: MEDLINE SEARCH Strategy

Interface: **EBSCO**

Database: **Medline**

Limiters: **2010/01/01-2021/04/30; English language**

Search modes: Find all my search terms: Boolean/Phrase; MeSH (MH)

ID	QUERY	Results
1	(MH "Morals+")	172,532
2	(MH "Psychological Distress")	1,629
3	#1 AND #2	30
4	Moral* N2 (distress* OR suffering* OR stress* OR injur* OR concern* OR transgression* OR residue)	2,675
5	#3 OR #4	2,689
6	(MH "Nurses+")	90,139
7	"Staff Nurses"	20,356
8	"Registered Nurses"	9,564
9	(MH "Students, Nursing")	25,516
10	(MH "Advanced Practice Nursing")	1,770
11	"Practical Nurses"	862
12	Nurse OR Nurses	366,436
13	#6 OR #7 OR #8 OR #9 OR #10 OR #11 OR #12	388,857
14	#5 AND #13	776
15	**#5 AND #13 Limiters applied**	**585**

Table 2: Embase SEARCH Strategy

Database: Ovid Embase

Limiters: **Published Date: 2010/01/01-2021/05/05; English language**

Search modes: Find all my search terms: **Boolean/Phrase; MeSH (MH)**

ID	***SEARCH QUERY***	***Results***
1	*(MH "Morals+")*	42,981
2	(MH "Psychological Distress")	28,442
3	#1 AND #2	83
4	Moral* adj2 (distress* OR suffering* OR stress* OR injur* OR concern* OR transgression* OR residue)	2,781
5	#3 OR #4	2,827
6	(MH "Nurses+")	198,891
7	(MH "Staff Nurses")	1,275
8	(MH "Registered Nurses")	4,984
9	(MH "Students, Nursing+")	28,641
10	(MH "Advanced Practice Nurses+")	41,599
11	(MH "Practical Nurses")	225
12	Nurse OR Nurses	437,555
13	#6 OR #7 OR #8 OR #9 OR #10 OR #11 OR #12	455,433
14	#5 AND #13	865
15	#5 AND #13 Limiters applied	695

Table 3: CINAHL SEARCH Strategy

Database: **EBSCO CINAHL Plus**

Limiters: **Published Date: 2010/01/01-2021/05/05; English language**

Search modes: Find all my search terms: **Boolean/Phrase; MeSH (MH)**

ID	***SEARCH QUERY***	***Results***
1	*(MH "Morals+")*	39,454
2	(MH "Psychological Distress")	1,386
3	#1 AND #2	77
4	Moral* N2 (distress* OR suffering* OR stress* OR injur* OR concern* OR transgression* OR residue)	1,983
5	#3 OR #4	2,000
6	(MH "Nurses+")	236,738
7	(MH "Staff Nurses")	8,326
8	(MH "Registered Nurses")	34,831
9	(MH "Students, Nursing+")	39,895
10	(MH "Advanced Practice Nurses+")	40,216
11	(MH "Practical Nurses")	5,959
12	Nurse OR Nurses	550,168
13	#6 OR #7 OR #8 OR #9 OR #10 OR #11 OR #12	593,823
14	#5 AND #13	975
15	**#5 AND #13 Limiters applied**	**688**

Table 4: APA PsyInfo SEARCH Strategy

Database: APA PsyInfo

Limiters: **Published Date: 2010/01/01-2021/05/05; English language**

Search modes: Find all my search terms: **Boolean/Phrase; MeSH (MH)**

ID	***SEARCH QUERY***	***Results***
1	*(MH "Morals+")*	27,034
2	(MH "Psychological Distress")	21,029
3	#1 AND #2	31
4	Moral* adj2(distress* OR suffering* OR stress* OR injur* OR concern* OR transgression* OR residue)	2,831
5	#3 OR #4	2,846
6	(MH "Nurses+")	33,153
7	(MH "Staff Nurses")	870
8	(MH "Registered Nurses")	4,342
9	(MH "Students, Nursing+")	5,531
10	(MH "Advanced Practice Nurses+")	561
11	(MH "Practical Nurses")	334
12	Nurse OR Nurses	69,023
13	#6 OR #7 OR #8 OR #9 OR #10 OR #11 OR #12	71,805
14	#5 AND #13	377
15	**#5 AND #13 Limiters applied**	**278**

Table 5: Web of Science SEARCH Strategy

Database: Clarivate Web of Science

Limiters: English Language; Publication date from 2010/01/01 to 2021/04/30

Search modes: Find all my search terms:

ID	SEARCH QUERY	Results
1	ALL FIELDS: (Morals)	113,861
2	ALL FIELDS: (Psychological distress)	50,032
3	#2 AND #1	318
4	ALL FIELDS: (Moral* N2 (distress* OR suffering* OR stress* OR injur* OR concern* OR transgression* OR residue))	10
5	#4 OR #3	328
6	ALL FIELDS: (Nurses)	347,594
7	ALL FIELDS: (Staff Nurses)	44,930
8	ALL FIELDS: (Registered Nurses)	16,343
9	ALL FIELDS: (Students, Nursing)	42,897
10	ALL FIELDS: (Advanced Practice Nurses)	12,419
11	ALL FIELDS: (Practical Nurses)	8,471
12	ALL FIELDS: (Nurse OR Nurses)	365,276
13	#12 OR #11 OR #10 OR #9 OR #8 OR #7 OR #6	375,485
14	#13 AND #5	108
15	**#13 AND #5 Limiters applied**	**97**