Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

INTENS CRIT CARE NUR 70 (2022) 103206

Contents lists available at ScienceDirect

Intensive & Critical Care Nursing

journal homepage: www.sciencedirect.com/journal/intensive-and-critical-care-nursing

Research Article

Moral distress, emotional impact and coping in intensive care unit staff during the outbreak of COVID-19

Marta Romero-García [a,b,c,d], Pilar Delgado-Hito [a,b,c,d], Macarena Gálvez-Herrer [e,d], José Antonio Ángel-Sesmero [f,d], Tamara Raquel Velasco-Sanz [g,h,d], Llucia Benito-Aracil [a,b,c,*], Gabriel Heras-La Calle [i,j,k]

[a] School of Nursing, University of Barcelona (Barcelona), Spain
[b] Fundamental Care and Medical-Surgical Nursing Department, Spain
[c] IDIBELL, Institute of Biomedical Research, Spain
[d] International Research Project for the Humanization of Health Care, Proyecto HU-CI, Spain
[e] Stress and Health Research Team, Autonomous University of Madrid (Madrid), Spain
[f] Infanta Leonor University Hospital (Madrid), Spain
[g] Clínico San Carlos University Hospital (Madrid), Spain
[h] Faculty of Nursing, Physiotherapy and Podiatry Complutense University (Madrid) Spain
[i] Hospital Comarcal Santa Ana, Motril (Granada), Spain
[j] International Research Project for the Humanization of Health Care, Proyecto HU-CI, Spain
[k] Universidad Francisco de Vitoria, Madrid, Spain

ARTICLE INFO

Keywords:
Anxiety
Coping
COVID-19
Depression
ICU staff
Moral distress
Nurses

ABSTRACT

Background: From the beginning, the COVID-19 pandemic increased ICU workloads and created exceptionally difficult ethical dilemmas. ICU staff around the world have been subject to high levels of moral stress, potentially leading to mental health problems. There is only limited evidence on moral distress levels and coping styles among Spanish ICU staff, and how they influenced health professionals' mental health during the pandemic.
Objectives: To assess moral distress, related mental health problems (anxiety and depression), and coping styles among ICU staff during the first wave of the COVID-19 pandemic in Spain.
Design: Cross-sectional.
Settings and participants: The study setting consisted of intensive care unit and areas converted into intensive care units in public and private hospitals. A total of 434 permanent and temporary intensive care staff (reassigned due to the pandemic from other departments to units) answered an online questionnaire between March and June 2020.
Methods: Sociodemographic and job variables, moral distress, anxiety, depression, and coping mechanisms were anonymously evaluated through a self-reported questionnaire. Descriptive and correlation analyses were conducted and multivariate linear regression models were developed to explore the predictive ability of moral distress and coping on anxiety and depression.
Results: Moral distress during the pandemic is determined by situations related to the patient and family, the intensive care unit, and resource management of the organisations themselves. intensive care unit staff already reached moderate levels of moral distress, anxiety, and depression during the first wave of the pandemic. Temporary staff (redeployed from other units) obtained higher scores in these variables ($p = 0.04$, $p = 0.038$, and $p = 0.009$, respectively) than permanent staff, as well as in greater intention to leave their current position ($p = 0.03$). This intention was also stronger in health staff working in areas converted into intensive care units (45.2%) than in normal intensive care units (40.2%) ($p = 0.02$). Moral distress, coupled with primarily avoidance-oriented coping styles, explains 37% (AdR^2) of the variance in anxiety and 38% (AdR^2) of the variance in depression.
Conclusions: Our study reveals that the emotional well-being of intensive care unit staff was already at risk during the first wave of the pandemic. The moral distress they experienced was related to anxiety and depression issues,

* Corresponding author at: Campus Bellvitge, Pavelló de Govern, 3a planta, despatx 337, Feixa Llarga, s/n, 08907 L'Hospitalet de Llobregat, Spain.
E-mail address: lbenito@ub.edu (L. Benito-Aracil).

https://doi.org/10.1016/j.iccn.2022.103206
Received 8 September 2021; Received in revised form 13 January 2022; Accepted 16 January 2022
Available online 21 January 2022

as well as the desire to leave the profession, and should be addressed, not only in permanent staff, but also in temporary staff, redeployed to these units as reinforcement workers.

Implications for Clinical Practice

- Intensive care unit staff were clearly at risk of suffering moral distress during the first wave of the pandemic.
- The mental health of intensive care unit staff is largely related to moral distress and avoidance-oriented coping styles; moral distress is particularly prominent in health professionals from other departments redeployed to unit and in professionals working in hospital units converted into intensive care units. Emotional support should be offered to intensive care unit workers during the pandemic, particularly to staff brought in from other departments.
- Preventive and emotional support interventions for health professionals should consider including psychoeducation related to active coping strategies, training in dealing with ethical dilemmas, and specialised training to care for critically ill patients.
- This research provides key concepts for the evaluation of mental health that can be improved and used by the Occupational Health and Mental Health departments of hospitals, during a pandemic, for the assessment, follow-up and, if necessary, intervention, in intensive care unit staff.

Introduction

Moral distress

Moral distress was first described in nurses as a process of pain or anguish occurring when health professionals know the ethically correct action they should perform in their work, but there are real or perceived limitations preventing them from doing the right thing (Jameton, 1984). The study was later extended to other professionals such as physicians, psychologists, occupational therapists, social workers, and other healthcare professionals (Austin et al., 2005; Schwenzer and Wang, 2006; Brazil et al., 2010; Epstein et al., 2019). The factors have been divided into three main categories related to 1) the patient and family (e.g., patient-centred care conflicts, participating in non-beneficial treatments), 2) the intensive care unit (ICU) and work staff (e.g., ethical conflicts with colleagues, lack of shared decision-making, team discordance) and 3) the healthcare system itself (e.g., poor communication, institutional policies) (Hamric and Epstein, 2017). When a health professional is repeatedly unable over time to perform actions they consider ethically correct, a "moral residue" is created (Webster and Bayliss, 2000; Epstein and Hamric, 2009) and the negative feelings remain after the situation has passed, leading to a "crescendo" effect, with increasingly intense responses to new experiences (Epstein and Hamric, 2009).

Psychological and emotional responses associated with moral distress include feelings of powerlessness, self-blame, anger, frustration, and discouragement (Rodney, 2013), burnout (Sajjadi et al., 2017), anxiety and depression (Lamiani et al., 2017; Oh and Gastmans, 2015; Rittenmeyer and Huffman, 2009), deterioration of morale and teamwork, decreases in the quality of care, challenges related to patient safety (Rodney, 2017) and desire to leave the job (Fernandez-Parsons et al., 2013).

Intensive care units are one of the departments where moral distress has been studied most extensively (Bruce et al., 2015; Henrich et al., 2016; Meltzer and Huckabay, 2004). In these units, situations that facilitate this emotional state include ethical dilemmas with critically ill patients, the use of technology and life support, patients who require withdrawing or withholding treatment, and clinical actions that could imply futile medical care (Hiler, et al., 2018; Mealer and Moss, 2016; Piers et al., 2011). A qualitative phenomenology study by Henrich et al. (2016) also identified additional factors: excess or lack of quality and quantity of the care provided, non-existent or inappropriate care plans, communication issues, need to make end-of-life care decisions, interaction and conflict between ICU staff and the family, recommendations given to patients by other professionals, and problems related to ICU resources and support received. In 2016, various scientific critical care societies appealed for action, highlighting moral distress as one of the essential areas for investigation and intervention in ICUs, together with burnout, compassion fatigue, and the perception of inappropriate care (Moss et al., 2016). Health professionals may perceive that the care they offer to patients is "inappropriate" when their knowledge or beliefs about its quality or quantity are not aligned (Kon et al., 2016).

COVID-19: emotional impact and coping strategies

The COVID-19 pandemic has been associated with an increase in the psychosocial risks of healthcare work, implying significant emotional consequences for these professionals (Blanco-Donoso et al., 2020). In ICUs in particular, moral distress levels have risen (Sheather and Fidler, 2021), and various studies mention decisive aggravating factors in the units, such as rationing and triage due to the scarcity of resources e.g., lack of ventilatory support, duplication of ICU beds in departments other than the usual ICU, and a lack of sufficient personal protective equipment (PPE), the need to prioritise COVID-19 patients over others, difficulty with team collaboration due to members affected by the disease, and patient and family solitude and isolation (Cacchione, 2020; Kanaris, 2021; Morley et al., 2020; Sheather and Fidler, 2021).

The distress of healthcare work during the pandemic has affected the emotional health of professionals, who have shown symptoms of anxiety, depression, peritraumatic dissociation, and burnout (Shanafelt et al., 2020; Azoulay et al., 2020a; Azoulay et al., 2020b). In Spain, some studies report that 45.7% of health professionals were at high risk for a mental disorder during the first phase of the pandemic, with reports also of symptoms related to general anxiety, panic attacks, depression, substance abuse, and suicidal ideation (Alonso et al., 2020; Mortier et al., 2020). Although there is research on this emotional impact and its prevalence, only a few studies have investigated how professionals cope with the resulting stress.

According to Lazarus and Folkman's traditional model (1984), coping strategies are understood to be any cognitive and behavioural efforts developed to handle specific external and internal demands considered overwhelming for the person's resources. These strategies are aimed at reducing the pressure of stressful situations. This objective is achieved through coping directly (thus reducing stress), but also indirectly, by mediating between stressors and emotional consequences for health (Folkman and Lazarus, 1988). During the pandemic, Babore et al. (2020) in Italy reported on an example of direct coping, finding

that health staff's main functional strategy for coping was a positive attitude that enabled them to reinterpret the negative situations they encountered, thus making it easier to deal with them. The mediating effect of various coping strategies on emotional health was investigated by Savitsky et al. (2020) in nursing students and by Huang et al. (2020) in nurses, who found that the use of humour reduced anxiety levels, whereas dysfunctional strategies, such as the use of alcohol or anti-anxiety agents and eating in excess, increased these levels. However, efficient active coping strategies, flexibility in shifting focus or perspective during work hours, and acceptance have been related to greater emotional well-being in frontline health professionals (Cai et al., 2020). To date, there are no published studies in Spain on the extent to which moral distress and coping strategies affected ICU staff emotionally during the first wave of the pandemic. Unlike Asian countries, Western countries such as Spain have had little prior experience with pandemics of this magnitude, and the situation faced was unfamiliar to health professionals.

Aim of the study

The aim of this study was to assess moral distress, possibly associated emotional health issues (anxiety and depression), and coping styles in ICU staff during the first wave of the COVID-19 pandemic.

Methods

Study design and participants

This study was based on a multicentre, cross-sectional, descriptive and correlational design.

The study setting consisted of ICUs and areas converted into ICUs in public and private hospitals in Spain during the first wave of the COVID-19 epidemic. The study population was made up of permanent ICU staff and temporary ICU staff, redeployed from other departments due to the pandemic, i.e., ICU workers who staffed these units between February and May 2020. The inclusion criteria were age $\geq$18 years and intensive care unit work during the pandemic. The exclusion criterion established was work in paediatric intensive care units or intermediate care units.

A consecutive, non-probabilistic sampling method was used until the sample size had been achieved. A sample size of 427 individuals was calculated to estimate a population percentage of around 50% (with a 95% confidence interval and precision of $\pm$5 percentage points). A replacement level of 10% was estimated.

All responders were recruited through a request posted on social media pages of the International Research Project for the Humanization of Intensive Care Units (HU-CI).

Data collection

All data were collected from March to June 2020 through an online form that included the following scales:

- *Demographic and occupational characteristics:* Questionnaire to collect information on sex, age, number of children, profession, management duties, type of hospital, usual work department, workplace during the pandemic, type of ICU cubicle, patients per day under their responsibility, work hours per week, and sick leave during the pandemic.
- *Measure of Moral Distress for Health Care Professionals (MMD-HP)* by Epstein et al. (2019), adapted into Spanish by Rodríguez-Ruíz et al. (2021): Self-administered questionnaire to evaluate the level of moral distress, with 27 items on a Likert-type scale with five frequency scores, from 0 (never) to 4 (frequently) and five intensity scores, from 0 (none) to 4 (high). The two scores for each item are multiplied (range, 0–16) and all results are then added, yielding an overall score of moral distress (range, 0–432) where higher scores indicate greater levels of moral distress. The questionnaire also included an open-ended question where the professional could describe other situations associated with moral distress but not included in the instrument, and two additional items on any past or present thoughts of leaving the profession due to moral distress. In this study, Cronbach's alpha for this scale was 0.93.
- Carver's *Brief COPE* (1997), adapted into Spanish by Crespo and Cruzado (1997): Self-reported questionnaire comprising 28 items to assess coping strategies according to level of use. A Likert-type scale with four choices, from 0 (not at all) to 3 (a lot). Fourteen coping styles were obtained: active coping, planning, use of instrumental support, self-distraction, venting, behavioural disengagement, positive reframing, denial, acceptance, religion, substance use (alcohol, medication), humour, and self-blame. Cronbach's alpha for this scale was 0.78.
- *Generalized Anxiety Disorder (GAD-7)* by Spitzer, et al. (2006), Spanish version by Garcia-Campayo et al. (2010): Seven items on symptoms and disability associated with generalised anxiety with four Likert-type response options, from 0 (not at all) to 3 (nearly every day). The total score was obtained by adding all items, yielding a score between 0 and 21. According to the original authors, the total score may be categorised into four severity groups: minimal (0–4), mild (5–9), moderate (10–14), and serious (15–21). Cronbach's alpha was 0.92.
- *Patient Health Questionnaire (PHQ-9)* by Kroenke et al., 2001; Kroenke and Spitzer, 2002; Spitzer et al., 1999), adapted into Spanish by Diez-Quevedo et al. (2001): Assessment of depressive symptoms, composed of nine items with four Likert-type response options, from 0 (not at all) to 3 (nearly every day), referring to the past two weeks. The total PHQ-9 score is between 0 and 27 (5–9 is classified as mild depression, 10–14 as moderate depression, 15–19 as moderately severe depression, and $\geq$20 as severe depression). Cronbach's alpha for PHQ-9 was 0.892 (Sun et al., 2020).

Data analysis

A descriptive analysis was performed on all variables. Quantitative variables are expressed as measures of central tendency and dispersion (mean, median, standard deviation [SD], and dispersion), and qualitative variables are reported as percentages and frequencies. To determine the relationship between the main variables and the demographic or occupational characteristics, Pearson's correlation coefficient and the Mann–Whitney *U* test were used for variables with two categories and Kruskal–Wallis test for variables with more than two categories; Pearson's chi-squared test was also used. Multivariate linear regression models were developed to explore the predictive ability of moral distress and coping on anxiety and depression. To construct the reduced model, variables of low statistical significance were discarded, controlling the beta coefficients (confounding factor). The models were tested using Snedecor's F-distribution ($p < 0.05$) and the adjusted R-squared.

The information gathered from the open-ended question in the *Measure of Moral Distress for Health Care Professionals (MMD-HP)* instrument was analysed with code-based content analysis, using NVivo-12 software.

Ethical approval

The study was conducted in accordance with the principles of the Declaration of Helsinki and approved by the Clinical Research Ethics Committee of the hospital (Code 20/432-E_COVID). Prior to completing the questionnaire, all participants gave informed consent, confirming that they understood that participation was voluntary and anonymous and that they could withdraw at any time, and that their data would be completely confidential, stored, and analysed on a secure computer, and used only for the study.

Table 1
Occupational characteristics of the sample (n = 434).

Characteristic Profession	N	%
Nurse	279	64.3
Physician	75	17.2
Nurse's aide	63	14.5
Orderly	10	2.3
Physical therapist	6	1.4
Psychologist	1	0.2
Type of facility		
Public	352	81.1
Private	82	18.9
Management duties		
Yes	43	90.1
No	391	9.9
Usual work role		
ICU	323	74.4
Other department(s)	111	25.6
Work role during the pandemic		
ICU	319	73.5
Hospital area converted into ICU	115	26.5
Number of hours worked per week during the pandemic		
30 or less	30	6.9
30 to 50	333	76.7
More than 50	71	16.4
Sick leave due to coronavirus		
Yes	65	15.0
No	369	85.0
Sick leave due to anxiety, stress, and/or depression during the pandemic		
Yes	18	4.1
No	416	95.9

Results

Demographic characteristics

A total of 434 individuals took part in the study. The mean age was 41.33 years (SD, 9.80), and 81.8% (n = 355) were women. The occupational characteristics are listed in Table 1.

Moral distress, anxiety, and depression in the sample

Average levels of moral distress were obtained in the sample, with a mean score of 153.89 (SD, 80.34) and moderate levels of generalised anxiety and depression, with mean scores of 11.62 (SD, 5.50) and 10.71 (SD, 5.99), respectively.

Moral distress was significantly higher in women ($p = 0.01$), at younger ages ($p = 0.04$), and in staff with no management duties ($p = 0.005$). Higher levels of moral distress were also observed in people who had higher levels of anxiety ($p < 0.05$) and depression ($p < 0.05$), as well as those who required sick leave during the pandemic due to work-related stress, anxiety, and/or depression ($p = 0.01$).

As regards professional groups, the score for moral distress was higher in nurses, although the difference between the various professions was not statistically significant. However, differences were observed according to the unit where a person was working, with higher levels of moral distress expressed by professionals working in areas converted into ICUs during the pandemic than by individuals working in normal ICUs ($p = 0.04$).

Anxiety and depression levels were higher among temporary ICU personnel than among permanent ICU staff, with these differences being statistically significant (anxiety, $p = 0.038$; depression, $p = 0.009$).

Table 2
List of codes, frequencies, and percentages of situational contexts that could generate moral distress.

Codes	Frequencies (%) n = 79
– Absence of family	12 (15.19%)
– Patient death	10 (12.66%)
– Workload	5 (6.33%)
– Material and human resources	12 (15.19%)
– Personal protective equipment (PPE)	8 (10.13%)
– Uncertainty	1 (1.26%)
– Experience and qualification	12 (15.19%)
– Therapeutic obstinacy	4 (5.06%)

Results of the open-ended question about "Other situations in which you have experienced moral distress" (MMD-HP)

A total of 79 people identified "other situations", as listed below. The analysis of the response content (Table 2) described four overall situations that could lead to moral distress:

1. *Absence of family and a patient dying alone*, i.e., absence of family members requiring professional interventions not considered to be part of their professional role. For instance, participant 25 (P-25) mentioned as an example: "*Every time I had to accompany a patient as they took their last breath, so they would not die alone because their family couldn't come to the hospital.*"

2. *Excessive workload*, leading to situations related to (1) **providing infrequent, low-quality care** and (2) **difficulty supervising health professionals who were recently qualified or inexperienced in critical care**. P-198: "*Insufficient time to provide proper care or teach inexperienced colleagues.*"

3. *Restricted resources,* *categorised as:* (1) **Lack of PPE**, increasing personal risk and lowering health care quality. P-309: "*Lack of material, personal protection equipment to be able to enter as often as necessary.*" (2) **Lack of material resources**, mainly beds and ventilators. P-195: "*(…) having to decide which patients can be admitted to the ICU and which ones can't (…) as it isn't possible to care for everyone.*" (3) **Lack of sufficient human resources** with adequate ICU experience. P-57: "*Working in a unit transformed into an ICU for adults (…) with no ICU specialist.*"

4. *Clinical uncertainty*, i.e., a perception of providing non-evidence-based healthcare. P-147: "*(…) uncertainty due to insufficient knowledge of the disease and what we were dealing with, leading to improvised healthcare.*" Some participants even relate this to the behaviour mentioned by P-64: "*therapeutic obstinacy.*"

Intention to leave

In response to two MMD-HP items about leaving the profession (first item "considered leaving prior to the pandemic" and second item "considered leaving current position during the pandemic and in relation to moral distress"), 58.5% (n = 254) reported they had not considered leaving the profession in the past (before the pandemic), 35.9% (n = 156) had considered it, and 5.5% (n = 24) had actually left at some point. In these health professionals, there was a significant difference ($p = 0.03$) in the usual workplace: 38.4% (n = 124) of permanent ICU staff had considered leaving whereas 50.4% (n = 56) of temporary staff, redeployed from other departments had considered it.

A significant difference ($p = 0.02$) was also observed in the workplace of staff who considered leaving their current position during the pandemic due to moral distress (second item): more professionals working in units converted into ICUs considered leaving their position (45.2%, n = 52) than staff in established ICUs (40.2%, n = 128).

Professionals who thought about leaving the profession and those who did not also showed significant differences in the levels of anxiety

Table 3
Coping during the early phase of the COVID-19 pandemic.

Coping styles		
	Mean ± SD	**Range**
Active coping	2.21 ± 0.60	0.5–3
Planning	1.83 ± 0.65	0–3
Use of instrumental support	1.70 ± 0.66	0–3
Use of emotional support	1.95 ± 0.73	0–3
Self-distraction	1.65 ± 0.73	0–3
Venting	1.31 ± 0.69	0–3
Behavioural disengagement	0.53 ± 0.95	0–6
Positive reframing	1.44 ± 0.78	0–3
Denial	0.49 ± 0.68	0–3
Acceptance	2.13 ± 0.58	0.5–3
Religion	0.65 ± 0.83	0–3
Substance use	0.20 ± 0.45	0–3
Humour	0.88 ± 0.82	0–3
Self-blame	0.79 ± 0.64	0–3

($p < 0.05$), depression ($p < 0.05$), and moral distress ($p < 0.05$). The scores obtained from people who considered leaving were higher for anxiety (15.06 vs 10.75), depression (14.73 vs 9.69), and moral distress (207.93 vs 140.15).

Coping styles, moral distress, and emotional health

Active coping, acceptance, emotional and instrumental support, and planning were the styles used most often by health professionals. The levels of the different coping styles are listed in Table 3.

Health professionals with the highest moral distress scores made greater use of instrumental support ($p < 0.05$), self-distraction ($p < 0.05$), venting ($p < 0.05$), behavioural disengagement ($p < 0.05$), denial ($p = 0.004$), substance use ($p < 0.05$), and self-blame ($p < 0.05$) than professionals with low levels of moral distress. Significant differences were also seen in coping by acceptance, such that lower levels of moral distress were associated with higher levels of acceptance ($p < 0.05$).

A positive correlation was observed between anxiety and the use of instrumental support ($p < 0.05$), self-distraction ($p < 0.05$), venting ($p < 0.05$), behavioural disengagement ($p < 0.05$), denial ($p < 0.05$), substance use ($p < 0.05$), and self-blame ($p < 0.05$) whereas a negative correlation was seen with acceptance ($p < 0.05$).

More severe depressive symptoms correlated positively with self-distraction ($p < 0.05$), venting ($p = 0.012$), behavioural disengagement ($p < 0.05$), denial ($p < 0.05$), substance use ($p < 0.05$), and self-blame ($p < 0.05$), and negatively with positive reframing ($p = 0.001$) and acceptance ($p < 0.05$).

Table 4
Multiple regression models for anxiety and depression.

	β (95% confidence interval)		**t**	***p***
Anxiety				
(Model constant)	5.24	(3.07–7.41)	4.74	0.00
Use of instrumental support	0.96	(0.28–1.63)	2.79	0.00
Self-distraction	1.36	(0.75–1.97)	4.41	0.00
Behavioural disengagement	0.54	(0.08–1.00)	2.29	0.02
Denial	0.96	(0.31–1.62)	2.89	0.00
Acceptance	−0.83	(−1.63 to −0.03)	−2.05	0.04
Substance use	1.14	(0.18–2.10)	2.34	0.02
Self-blame	1.06	(0.38–1.75)	3.04	0.00
Positive reframing	−0.68	(−1.26 to −0.10)	−2.310	0.02
Moral distress	0.02	(0.02–0.03)	7.80	0.00
Depression				
(Model constant)	5.19	(2.84–7.54)	4.33	0.00
Use of instrumental support	−0.08	(−0.81–0.66)	−0.20	0.84
Self-distraction	1.42	(0.76–2.01)	4.24	0.00
Behavioural disengagement	0.61	(0.11–1.11)	2.39	0.02
Denial	1.12	(0.41–1.84)	3.10	0.00
Acceptance	−0.61	(−1.48–0.25)	−1.39	0.16
Substance use	1.26	(0.23–2.30)	2.39	0.02
Self-blame	1.65	(0.90–2.40)	4.34	0.00
Positive reframing	−1.13	(−1.76 to −0.50)	−3.52	0.00
Moral distress	0.02	(0.02–0.03)	7.83	0.00

Prediction of emotional health variables

A multiple linear regression analysis was used to identify potential predictors of mental health issues in the sample. Anxiety and depression were taken as dependent variables, and variables exhibiting a significant relationship were considered independent. Table 4 lists the predictors identified by the models.

The presence of moral distress, together with the coping styles of self-distraction, substance use, low level of acceptance, self-blame, denial, use of instrumental support, and behavioural disengagement, were the variables identified by the model as predictors of anxiety, altogether explaining 37% (AdR^2) of the variance.

In the case of depression, the presence of the coping styles of moral distress, such as self-blame, self-distraction, absence of positive reframing, denial, substance use, and behavioural disengagement, altogether explain 38% (AdR^2) of the variance.

Discussion

The pandemic experienced by health professionals is a completely new and unfamiliar situation in their professional lives for most of them. Their reactions could be considered "normal" responses to an "abnormal" situation. This in-depth study on moral distress among ICU staff explored an area that has been insufficiently researched in the Spanish population, as the main instrument has only recently been validated in the Spanish language (Rodriguez-Ruiz et al., 2021). Consistent with international findings during the pandemic (Cacchione, 2020; Kanaris, 2021; Rodríguez-Sheather and Fidler, 2021), our results report a real, albeit moderate, risk of moral distress in Spanish ICUs during the first few months of the pandemic. The risk profile was unfavourable for women, for young health professionals who did not hold management posts, and for nurses, but profession-related differences were not statistically significant. Several studies report that nurses tend to be more severely affected by moral distress (Dodek et al., 2016; Neumann et al., 2018; Whitehead et al., 2015), whereas other research finds some inconsistencies in the differences between health professionals (Epstein et al. 2019). In ICUs, interdisciplinary teamwork is absolutely essential for daily routines (Donovan et al, 2018), but even more so during a pandemic. This approach gives staff shared exposure to morally challenging situations, a common ethical climate known to be key in explaining moral distress (Atabay et al., 2015; Corley et al., 2005; Pauly et al., 2009). It also enables them to experience the stress as a group (Peiró, 2001), providing common and shared responses to the process.

Data obtained from the open-ended items of this research exemplify pandemic-related situations conducive to the development of moral distress, consistent with other qualitative studies (Dolgin et al., 2020). These situations fall into the three theoretical groups described by Hamric and Epstein (2017). The first group is designated "patient and family," and in our study, professionals found it extremely difficult to alleviate their emotional suffering through the usual work standards and practices, especially when coping with watching a patient dying alone. The second group, "unit and staff," refers to high-pressure ICU situations where actions perceived as ethically correct became difficult due to the need to coordinate with professionals who were recently qualified or who lacked experience in critical care. Third, "the system or organisation itself", covers the lack of material, human, and PPE resources that led to situations where professionals were aware of the ethically correct actions but were unable to perform them.

These situations influenced the moral distress and mental health of ICU staff, with our results showing a clear bidirectionality between the two. Consequently, professionals experiencing anxiety, depression, and/

or sick leave during the pandemic had higher levels of moral distress. Likewise, moral distress plus avoidance-oriented coping styles (e.g., self-distraction, denial, substance use, behavioural disengagement, low self-acceptance, and high self-blame) were strong predictors of these emotional symptoms.

A study by Lazarus and Folkman (1986) shed light on how active coping helps ICU staff to deal with the problem directly, minimise the impact of the situation, regulate emotions, and reinterpret and seek an adaptive sense, whereas passive or avoidance-oriented coping can aggravate it. Furthermore, when the professional's experiences lead to moral injury as a result of performing or witnessing actions that go against the moral code, then avoidance-oriented strategies and maladaptive behaviours are often seen (Litz et al., 2009). Among our sample, moral distress was also linked with a stronger intention to leave the job, consistent with findings from other countries, such as Iran (Nabourehet al., 2020), Lithuania (Laurs et al., 2020), and the United States (Dyo, et al., 2016). These results could be relevant for the health of healthcare professionals and organisations, as the risk of an intention to leave was already present before the pandemic, especially among nurses (Heinen et al., 2012). The pandemic has even adversely affected the professional identity of student nurses (Nie et al., 2021), with this being associated with mental health issues (Jiang et al., 2019), as in our study.

These results were especially significant among health professionals redeployed to ICUs from other departments and among professionals who worked in hospital areas converted into ICUs. In addition to experiencing higher levels of moral distress, anxiety, and depression, these professionals were more likely to have considered leaving their job. Other research in Europe has not reported significant differences in anxiety levels between permanent staff and temporary workers; although the latter did show higher levels of depressive symptoms than permanent ICU staff (Altmayer et al., 2021). In this pandemic, health professionals were redeployed to ICUs, compelling them to work in an unfamiliar environment with patients of different characteristics and clinical course who required very specific critical decisions. Urgent incorporation into the ICU setting sometimes means health professionals miss training and coaching in tackling ethical dilemmas, a variable related to moral distress (Greenberg et al., 2020). Conversely, suitable airway management training is associated with lower levels of moral distress in ICUs (Golitaleb et al., 2021). From the workplace perspective, the need to improvise ICUs in previously unprepared areas also appears to have introduced new ethical and emotional challenges, confirming that the setting can influence people's well-being and that a healing and humanised environment should be created (Bosia et al., 2016; Huisman et al., 2012; Rubert et al., 2007), thus promoting the humanisation of ICUs (Velasco and Heras, 2020).

Limitations

This study has several limitations. First, due to the cross-sectional design, causal relationships could not be established between the variables. Longitudinal and prospective studies are needed to further investigate the interaction between moral distress and the variables of anxiety, depression, intention to leave, and coping. This should be done considering the population with possible mental health problems prior to the pandemic, a variable that was not controlled in this study. Second, voluntary participation via an online form could have created a biased response due to the self-selection of the sample. Last, this is an early study on moral distress in the Spanish population and used a recently validated scale; therefore, additional research is required to confirm the results.

Conclusions

This study reveals the real risk of moral distress among ICU staff during the COVID-19 pandemic. This level of distress, coupled with avoidance-oriented and passive coping styles, provides significant predictors of anxiety and depression and is related to a stronger desire to leave the job. Training in functional coping styles, ethical dilemmas, and critical care can help alleviate moral distress and reduce related harm. Mental health care of frontline health professionals during a pandemic should focus not only on ICU staff, but also on reinforcement workers who have since returned to their original roles and who may have experienced significant harm in terms of emotional well-being, as reported by our study. Further research should be undertaken to identify useful criteria for selecting these reinforcement professionals and for providing them with adequate training, follow-up, and emotional support.

Funding

This research did not receive any specific grants from funding agencies in the public, commercial, or not-for-profit sectors.

Ethical statement

The study was conducted in accordance with the principles of the Declaration of Helsinki and approved by the Clinical Research Ethics Committee of the hospital (Code 20/432-E_COVID). Prior to completing the questionnaire, all participants gave informed consent, confirming that they understood that participation was voluntary and anonymous and that they could withdraw at any time, and that their data would be completely confidential, stored and analyzed on a secure computer, and used only for the study.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Acknowledgements

We would like to thank the ICU staff for their contributions and assistance as well as for their patience and participation.

Contributions: All authors contributed to the study design, performed a critical review of the manuscript, and gave approval for the manuscript to be submitted in its present form.

References

Alonso, J., Vilagut, G., Mortier, P., Ferrer, M., Alayo, I., Aragón-Peña, A., Aragonès, E., et al., 2020. Mental health impact of the first wave of COVID-19 pandemic on Spanish healthcare workers: A large cross-sectional survey. Rev. Psiquiatr. Salud. Ment. 14, 90–105. https://doi.org/10.1016/j.rpsm.2020.12.001.

Altmayer, V., Weiss, N., Cao, A., Marois, C., Demeret, S., Rohaut, B., et al., 2021. Coronavirus disease 2019 crisis in Paris: A differential psychological impact between regular intensive care unit staff members and reinforcement workers. Aust. Crit. Care 34 (2), 142–145. https://doi.org/10.1016/j.aucc.2020.11.005.

Atabay, G., Çangarli, B.G., Penbek, Ş., 2015. Impact of ethical climate on moral distress revisited: Multidimensional view. Nurs. Ethics 22 (1), 103–116. https://doi.org/10.1177/0969733014542674.

Austin, W., Rankel, M., Kagan, L., Bergum, V., Lemermeyer, G., 2005. To stay or to go, to speak or stay silent, to act or not to act: moral distress as experienced by psychologists. Ethics Behav. 15 (3), 197–212. https://doi.org/10.1207/s15327019eb1503_1.

Azoulay, E., Cariou, A., Bruneel, F., Demoule, A., Kouatchet, A., Reuter, D., 2020a. Symptoms of anxiety, depression, and peritraumatic dissociation in critical care

clinicians managing patients with COVID-19. A cross-sectional study. Am. J. Respir. Crit. Care Med. 202 (10), 1388–1398.
Azoulay, E., De Waele, J., Ferrer, R., Staudinger, T., Borkowska, M., Povoa, P., et al., 2020b. Symptoms of burnout in intensive care unit specialist facing the COVID-19 outbreak. Ann. Intensive Care 10, 110. https://doi.org/10.1186/s13613-020-00722-3.
Babore, A., Lombardi, L., Viceconti, M.L., Pignataro, S., Marino, V., Crudele, M., et al., 2020. Psychological effects of the COVID-2019 pandemic: Perceived stress and coping strategies among healthcare professionals. Psychiatry Res. 293, 113366. https://doi.org/10.1016/j.psychres.2020.113366.
Blanco-Donoso, L.M., Garrosa, E., Moreno-Jiménez, J., Gálvez-Herrer, M., Moreno-Jiménez, B., 2020. Occupational psychosocial risks of health professionals in the face of the crisis produced by the COVID-19: From the identification of these risks to immediate action. Int. J. Nurs. Stud. Adv. 2, 100003.
Bosia, D., Marino, D., Peretti, G., 2016. Health facilities humanisation: Design guidelines supported by statistical evidence. Ann. Ist Supper Sanità 52 (1), 33–39. https://doi.org/10.4415/ANN_16_01_08.
Brazil, K., Kassalainen, S., Ploeg, J., Marshall, D., 2010. Moral distress experienced by health care professionals who provide home-based palliative care. Soc. Sci. Med. 71 (9), 1687–1691. https://doi.org/10.1016/j.socscimed.2010.07.032.
Bruce, C.R., Miller, S.M., Zimmerman, J.L., 2015. A qualitative study exploring moral distress in the ICU team: the importance of unit functionality and intrateam dynamics. Crit. Care Med. 43 (4), 823–831. https://doi.org/10.1097/CCM.0000000000000822.
Cacchione, P.Z., 2020. Moral distress in the midst of the COVID-19 pandemic. Clin. Nurs. Res. 29 (4), 215–216. https://doi.org/10.1177/1054773820920385.
Cai, H., Tu, B., Ma, J., Chen, L., Fu, L., Jiang, Y., et al. 2020. Psychological impact and coping strategies of frontline medical staff in Hunan between January and March 2020 during the outbreak of coronavirus disease 2019 (COVID–19) in Hubei, China. Med. Sci. Monit. 15, 26:e924171. 10.12659/MSM.924171.
Corley, M.C., Minick, P., Elswick, R.K., Jacobs, M., 2005. Nurse moral distress and ethical work environment. Nurs. Ethics 12 (4), 381–390. https://doi.org/10.1191/0969733005ne809oa.
Crespo, M., Cruzado, J.A. 1997. La evaluación del afrontamiento: adaptación española del cuestionario COPE con muestra de estudiantes universitarios. Análisis y Modificación de Conducta. 23 (92), 797-830. [Online] https://dialnet.unirioja.es/servlet/articulo?codigo=7071279 [Accessed April 2021].
Diez-Quevedo, C., Rangil, T., Sanchez-Planell, L., Kroenke, K., Spitzer, R.L., 2001. Validation and utility of the patient health questionnaire in diagnosing mental disorders in 1003 general hospital Spanish inpatients. Psychosom. Med. 63 (4), 679–686. https://doi.org/10.1097/00006842-200107000-00021.
Dodek, P.M., Wong, H., Norena, M., Ayas, N., Reynolds, S.C., Keenan, S.P., et al., 2016. Moral distress in intensive care unit professionals is associated with profession, age, and years of experience. J. Crit. Care 31 (1), 178–182. https://doi.org/10.1016/j.jcrc.2015.10.011.
Dolgin, J., McLeod-Sordjan, R., Markowitz, W., Sanmartin, M., 2020. A novel ethical approach to moral distress during COVID 19 in New York. Clin. Ethics 16 (4), 330–340. https://doi.org/10.1177/1477750920977100.
Donovan, A.L., Aldrich, J.M., Gross, A.K., Barchas, D.M., Thornton, K.C., Schell-Chaple, H.M., et al., 2018. Interprofessional care and teamwork in the ICU. Crit. Care Med. 46 (6), 980–990. https://doi.org/10.1097/CCM.0000000000003067.
Dyo, M., Kalowes, P., Devries, J., 2016. Moral distress and intention to leave: A comparison of adult and paediatric nurses by hospital setting. Intensive Crit. Care Nurs. 36, 42–48. https://doi.org/10.1016/j.iccn.2016.04.003.
Epstein, E.G., Hamric, A.B., 2009. Moral distress, moral residue and the crescendo effect. J. Clin. Ethics 20, 330–342.
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 Empir. Bioeth. 10 (2), 113–124. https://doi.org/10.1080/23294515.2019.1586008.
Fernandez-Parsons, R., Rodriguez, L., Goyal, D., 2013. Moral distress in emergency nurses. J. Emerg. Nurs. 39 (6), 547–552. https://doi.org/10.1016/j.jen.2012.12.009.
Folkman, S., Lazarus, R.S., 1988. Coping as a mediator of emotion. J. Pers. Soc. Psychol. 54 (3), 466–475. https://doi.org/10.1037/0022-3514.54.3.466.
Garcia-Campayo, J., Zamorano, E., Ruiz, M.A., Pardo, A., Perez-Paramo, M., Lopez-Gomez, V., et al., 2010. Cultural adaptation into Spanish of the generalized anxiety disorder-7 (GAD-7) scale as a screening tool. Health Qual. Life Outcomes 8 (1), 8. https://doi.org/10.1186/1477-7525-8-8.
Golitaleb, M., Masmouei, B., Jadidi, A., Majdabadi, F.H., Harorani, M. 2021. Investigating the impact of airway management training on the moral distress and compassion fatigue of nurses working in intensive care units. Turk. J. Intensive Care (Online). 10.4274/tybd.galenos.2021.03521.
Greenberg, N., Docherty, M., Gnanapragasam, S., Wessely, S., 2020. Managing mental health challenges faced by healthcare workers during covid-19 pandemic. BMJ m1211. https://doi.org/10.1136/bmj.m1211.
Hamric, A.B., Epstein, E.G., 2017. A health system-wide moral distress consultation service: Development and evaluation. HEC Forum 29 (2), 127–143. https://doi.org/10.1007/s10730-016-9315-y.
Heinen, M.M., van Achterberg, T., Schwendimann, R., Zander, B., Matthews, A., Kózka, M., et al., 2012. Nurses' intention to leave their profession: a cross sectional observational study in 10 European countries. Int. J. Nurs. Stud. 50 (2), 174–184. https://doi.org/10.1016/j.ijnurstu.2012.09.019.
Henrich, N.J., Dodek, P.M., Alden, L., Keenan, S.P., Reynolds, S., Rodney, P., 2016. Causes of moral distress in the intensive care unit: A qualitative study. J. Crit. Care 35, 57–62. https://doi.org/10.1016/j.jcrc.2016.04.033.
Hiler, C., Hickman, R., Reimer, A., Wilson, K., 2018. Predictors of moral distress in a US sample of critical care nurses. Am. J. Crit. Care 27 (1), 59–67. https://doi.org/10.4037/ajcc2018968.
Huang, L., Lei, W., Xu, F., Liu, H., Yu, L., Li, Z., 2020. Emotional responses and coping strategies in nurses and nursing students during Covid-19 outbreak: A comparative study. PLoS ONE 15 (8), e0237303. https://doi.org/10.1371/journal.pone.0237303.
Huisman, E.R., Morales, E., van Hoof, J., Kort, H.S.M., 2012. Healing environment: A review of the impact of physical environmental factors on users. Build. Environ. 58, 70–80. https://doi.org/10.1016/j.buildenv.2012.06.016.
Jameton, A., 1984. Nursing Practice: The Ethical Issues. Prentice Hall, Englewood Cliffs, NJ.
Jiang, F., Zhou, H., Rakofsky, J., Hu, L., Liu, T., Wu, S., et al., 2019. Intention to leave and associated factors among psychiatric nurses in China: A nationwide cross-sectional study. Int. J. Nurs. Stud. 94, 159–165. https://doi.org/10.1016/j.ijnurstu.2019.03.013.
Kanaris, C., 2021. Moral distress in the intensive care unit during the pandemic: the burden of dying alone. Intensive Care Med. 47 (1), 141–143. https://doi.org/10.1007/s00134-020-06194-0.
Kon, A.A., Shepard, E.K., Sederstrom, N.O., Swoboda, S.M., Marshall, M.F., Birriel, B., et al., 2016. Defining futile and potentially inappropriate interventions: A policy statement from the Society of Critical Care Medicine Ethics Committee. Crit. Care Med. 44 (9), 1769–1774. https://doi.org/10.1097/CCM.0000000000001965.
Kroenke, K., Spitzer, R.L., 2002. The PHQ-9: a new depression diagnostic and severity measure. Psychiatr. Ann. 32 (9), 1–7. https://doi.org/10.3928/0048-5713-20020901-06.
Kroenke, K., Spitzer, R.L., Williams, J.B., 2001. The PHQ-9: validity of a brief depression severity measure. J. Gen. Intern. Med. 16 (9), 606–613. https://doi.org/10.1046/j.1525-1497.2001.016009606.x.
Lamiani, G., Setti, I., Barlascini, L., Vegni, E., Argentero, P., 2017. Measuring moral distress among critical care clinicians: validation and psychometric properties of the Italian Moral Distress Scale-Revised. Crit. Care Med. 45 (3), 430–437. https://doi.org/10.1097/CCM.0000000000002187.
Laurs, L., Blaževičienė, A., Capezuti, E., Milonas, D., 2020. Moral distress and intention to leave the profession: Lithuanian nurses in municipal hospitals. J. Nurs. Scholarsh. 52 (2), 201–209. https://doi.org/10.1111/jnu.12536.
Lazarus, R.S., Folkman, S., 1986. Cognitive theories of stress and the issue of circularity. In: Appley, M., Trumbull, R. (Eds.), Dynamics of Stress. Plenum, New York, pp. 63–80.
Lazarus, R.S., Folkman, S., 1984. Stress, Appraisal and Coping. Springer, New York.
Litz, B.T., Stein, N., Delaney, E., Lebowitz, L., Nash, W.P., Silva, C., et al., 2009. Moral injury and moral repair in war veterans: A preliminary model and intervention strategy. Clin Psychol Rev. 29 (8), 695–706. https://doi.org/10.1016/j.cpr.2009.07.003.
Mealer, M., Moss, M., 2016. Moral distress in ICU nurses. Intensive Care Med. 42 (10), 1615–1617. https://doi.org/10.1007/s00134-016-4441-1.
Meltzer, L.S., Huckabay, L.M., 2004. Critical care nurses' perceptions of futile care and its effect on burnout. Am. J. Crit. Care 13, 202–208. https://doi.org/10.4037/ajcc2004.13.3.202.
Morley, G., Sese, D., Rajendram, P., Horsburgh, C.C. 2020. Addressing caregiver moral distress during the COVID-19 pandemic. Cleve Clin J Med. 10.3949/ccjm.87a.ccc047.
Mortier, P., Vilagut, G., Ferrer, M., Serra, C., Molina, J.D., López-Fresneña, N., et al., 2020. Thirty-day suicidal thoughts and behaviors among hospital workers during the first wave of the Spain COVID-19 outbreak. Depress Anxiety 38 (5), 528–544. https://doi.org/10.1002/da.23129.
Moss, M., Good, V.S., Gozal, D., Kleinpell, R., Sessler, C.N., 2016. An official critical care societies collaborative statement: burnout syndrome in critical care healthcare professionals: a call for action. Crit. Care Med. 44 (7), 1414–1421. https://doi.org/10.1016/j.chest.2016.02.649.
Nabourei, A., Imanipour, M., Salehi, T., 2020. Moral distress and intention to leave intensive care units: A correlational study. Clin. Ethics 16 (3), 234–239. https://doi.org/10.1177/1477750920977094.
Neumann, J.L., Davis, L., Jernigan, C., 2018. Methods to address moral distress experienced by stem cell transplantation nurses and build resiliency. Biol. Blood Marrow Transplant. 24 (3), S117–S118. https://doi.org/10.1016/j.bbmt.2017.12.690.
Nie, S., Sun, C., Wang, L., Wang, X., 2021. The professional identity of nursing students and their intention to leave the nursing profession during the coronavirus disease (COVID-19) pandemic. J. Nurs. Res. 29 (2), e139 https://doi.org/10.1097/jnr.0000000000000424.
Oh, Y., Gastmans, C., 2015. Moral distress experienced by nurses: a quantitative literature review. Nurs. Ethics 22 (1), 15–31. https://doi.org/10.1177/0969733013502803.
Pauly, B., Varcoe, C., Storch, J., Newton, L., 2009. Registered nurses' perceptions of moral distress and ethical climate. Nurs. Ethics 16 (5), 561–573. https://doi.org/10.1177/0969733009106649.
Peiró, J.M., 2001. Stressed teams in organizations. A multilevel approach to the study of stress in work units. In: Pryce, J., Weilkert, C., Torkelson, E. (Eds.), Occupational Health Psychology: Europe. European Academy of Occupational Health, Nottingham, pp. 9–13.
Piers, R.D., Azoulay, E., Ricou, B., Dekeyser Ganz, F., Decruyenaere, J., Max, A., et al., 2011. Perceptions of appropriateness of care among European and Israeli intensive care unit nurses and physicians. JAMA 306 (24), 2694–2703. https://doi.org/10.1001/jama.2011.1888.

Rittenmeyer, L., Huffman, D., 2009. How professional nurses working in hospital environments experience moral distress: a systematic review. JBI Libr. Syst. Rev. 7 (28), 1234–1291.

Rodney, P.A., 2013. Seeing ourselves as moral agents in relation to our organizational and sociopolitical contexts: commentary on "a reflection on moral distress in nursing together with a current application of the concept" by Andrew Jameton. J. Bioeth. Inq. 10 (3), 313–315. https://doi.org/10.1007/s11673-013-9461-8.

Rodney, P.A., 2017. What we know about moral distress. Am. J. Nurs. 117 (2), S7–S10. https://doi.org/10.1097/01.NAJ.0000512204.85973.04.

Rodriguez-Ruiz, E., Campelo-Izquierdo, M., Estany-Gestal, A., Blanco Hortas, A., Rodriguez-Calvo, M.S., Rodríguez-Núñez, A., 2021. Validation and psychometric properties of the Spanish version of the measure of moral distress for health care professionals (MMD-HP-SPA). Med. Intensiva. https://doi.org/10.1016/j.medin.2021.03.002.

Rubert, R., Long, L.D., Hutchinson, M.L., 2007. Creating a healing environment in the ICU. In: Kaplow, R., Hardin, S.R. (Eds.), Critical Care Nursing: Synergy for Optimal Outcomes. Jones & Bartlett Publishers, Sudbury, MA, pp. 27–39.

Sajjadi, S., Norena, M., Wong, M.H., Dodek, P., 2017. Moral distress and burnout in internal medicine residents. Can. Med. Educ. J. 8 (1), e36–e43.

Savitsky, B., Findling, Y., Ereli, A., Hendel, T., 2020. Anxiety and coping strategies among nursing students during the covid-19 pandemic. Nurse Educ. Pract. 46, 102809. https://doi.org/10.1016/j.nepr.2020.102809.

Schwenzer, K.J., Wang, L., 2006. Assessing moral distress in respiratory care practitioners. Crit. Care Med. 34 (12), 2967–2973. https://doi.org/10.1097/01.CCM.0000248879.19054.73.

Shanafelt, T., Ripp, J., Trockel, M., 2020. Understanding and addressing sources of anxiety among health care professionals during the COVID-19 pandemic. JAMA 323 (21), 2133–2134. https://doi.org/10.1001/jama.2020.5893.

Sheather, J., Fidler, H., 2021. Covid-19 has amplified moral distress in medicine. BMJ 372, 28. https://doi.org/10.1136/bmj.n28.

Spitzer, R.L., Kroenke, K., Williams, J.B.W., Löwe, B., 2006. A brief measure for assessing generalized anxiety disorder. Arch. Intern. Med. 166, 1092–1097. https://doi.org/10.1001/archinte.166.10.1092.

Spitzer, R.L., Kroenke, K., Williams, J.B., 1999. Validation and utility of a self-report version of PRIME-MD: the PHQ primary care study. Primary care evaluation of mental disorders. Patient Health Questionnaire. JAMA 282, 1737–1744. https://doi.org/10.1001/jama.282.18.1737.

Sun, Y., Fu, Z., Bo, Q., Mao, Z., Ma, X., Wang, C., 2020. The reliability and validity of PHQ-9 in patients with major depressive disorder in psychiatric hospital. BMC Psychiatry 20, 474. https://doi.org/10.1186/s12888-020-02885-6.

Velasco, J.M., Heras, G., 2020. Humanizing intensive care: from theory to practice. Crit. Care Nurs. Clin. North Am. 32 (2), 135–147. https://doi.org/10.1016/j.cnc.2020.02.001.

Webster, G., Bayliss, F.E., 2000. Moral residue. In: Rubin, S.B., Zoloth, L. (Eds.), Margin of Error: The Ethics of Mistakes in the Practice of Medicine. University Publishing Group, Hagerstown, MD, pp. 217–230.

Whitehead, P.B., Herbertson, R.K., Hamric, A.B., Epstein, E.G., Fisher, J.M., 2015. Moral distress among healthcare professionals: Report of an institution-wide survey. J. Nurs. Scholarsh. 47 (2), 117–125. https://doi.org/10.1111/jnu.12115.