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Assessing moral distress and substance use among nurses in the time of COVID-19 to improve patient safety

Lauren Childers
James Madison University

Assessing Moral Distress and Substance Use among Nurses in the Time of COVID-19 to Improve Patient Safety

Lauren Childers

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FACULTY COMMITTEE:

Committee Chair: Erica Lewis PhD, RN

Committee Members/Readers:

Jill Delawder DNP, RN, APRN, ACCNS-AG, CCRN-CSC

Dedication

I dedicate this clinical research project to my family who believes in me, even when I think I've accomplished all I can. To my parents who have been rooting for me since day one. You all knew long before anyone else that you had a very stubborn and capable daughter who would take on the world. I am incredibly grateful for all your support and encouragement.

To Joel, my loving husband. During this entire journey you have been my anchor. No matter what obstacle was in front of us your response was always, "We will figure it out." You have sacrificed more than anyone will know to help me accomplish my dreams. I feel more loved and supported with you than I ever dreamed possible. My world makes sense because of you.

To my daughters, you have given me strength and focus I did not know I needed to complete this work. I hope this accomplishment shows you that no matter the journey, if you are stubborn enough to keep going and have the support you need, you can take on the world and win. I will always be there for you. I cannot wait to see everything you accomplish.

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Thank you to the institution that allowed me access for research. This research was possible because of your generosity. The institutions name and any related personal communication have been redacted throughout with gratitude to provide appropriate privacy.

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Abstract

The COVID-19 pandemic has brought rapid changes, increased stress, and ethical challenges to nurses across the globe. These factors may place nurses at increased risk for developing moral distress and substance use disorder. This stress can also increase nurse vulnerability to substance use. Previously there was little evidence about the rates of moral distress and substance use disorder among nurses during the COVID-19 pandemic. The primary objective of this evidence-based project was to describe levels of moral distress and substance use among nurses in a community hospital during the COVID-19 pandemic and to make recommendations for interventions to improve nurse wellbeing and patient safety based on findings. An online survey, consisting of demographic questions, the Measure of Moral Distress in Healthcare Professional Tool, the Alcohol Use Disorder Identification Tool, the Drug Use Screening Tool-10 items 1 and 2, and a single item asking about amount of time caring for COVID-19 patients was sent to inpatient and emergency department nurses working at a rural, community hospital. Frequency statistics and measures of central tendency are used to describe the rates of moral distress, substance use disorder risk for alcohol and drugs, and time spent caring for patients with COVID-19. A total of 57 nurses completed the survey. Nurses were found to be experiencing various levels of moral distress, with the collective group experiencing scores in the middle of the moral distress range. One-third of the nurses reported an intention to leave their position due to moral distress. In addition, a third of nurses who participated in the survey reported risky alcohol use, while 5.3% reported harmful alcohol use. Fully 21.1% of nurses reported using illicit substances, while 5.3% reported using illicit substances daily or nearly daily. Given the literature on the

crescendo effect of moral distress and the nature of substance use disorder, the lasting effects to nurses during the COVID-19 pandemic will be important to the profession for years to come. Nursing leadership must commit to implementing resources to help prevent and care for nurses who experience moral distress and substance use disorder.
Keywords: Moral distress, substance use disorder, substance misuse, COVID-19

Assessing Moral Distress and Substance Use among Nurses in the Time of COVID-19 to Improve Patient Safety

Nurse moral distress has been a concern in healthcare for decades. Moral distress was first defined by Andrew Jameton in 1984, when he described it as "when one knows the right thing to do, but institutional constraints make it nearly impossible to pursue the right course of action" (p. 6). Examples of these constraints include increased patient-to-nurse ratios, limited personal protective equipment, shortages of equipment and treatments, providing care perceived as futile, patients dying without family, and compromised standards of care (Altman, 2020). Moral distress can result in nurses feeling frustrated, angry, fatigued, stressed, embarrassed, and hurt (Henrich et al., 2017). To process these emotions, nurses turn to coping mechanisms. Common coming strategies include venting or debriefing with peers, compartmentalizing their emotions, divesting in their work, changing assignments, jobs, and consuming alcohol (Henrich et al., 2017). Moral distress is a potential in high-stress situations and can have a negative impact.

Similarly concerning is substance use disorder and substance misuse among nurses. At greater than six months, chronic stress was noted as a significant contributing factor in alcohol and substance misuse and ultimately developing related disorders such as addiction and substance use disorder (Sinha, 2008). Healthcare professionals are not immune to substance use and have similar rates of misuse as the general population; however, their responsibilities and role in the community provide a significant risk to a community (American Addiction Centers, 2021). In times of high stress, leaders in the healthcare field must be vigilant for potential alcohol and substance misuse.

Background & Significance

Moral Distress

The Concept of Moral Distress

Understanding of moral distress has evolved. Moral distress results when a nurse must act against what they believe to be the most ethically right choice. This distress can also result from a *perceived* violation of one's core values (Forozeiya et al. 2019). The forces that prevent a nurse from acting according to the manner that they see fit are called constraints (Karakachian & Colbert, 2019). Examples of constraints include dealing with end-of-life decisions, futile care, lack of personnel, working with families, being overextended, unfair or misunderstood policies, continuous changes, and lack of supplies. Nurses may be unaware of the constraints as evidence supports the idea that nurses are more aware of the symptoms of moral distress, rather than the causes (Hanna, 2004). Moreover, it has been observed that a moral residue results after instances of high moral distress, thus the effects of instances of moral distress compound over time in a phenomenon called the "crescendo effect" (Epstein & Hamric, 2009). If moral distress is not properly processed, it can harm the nurse, patients, and healthcare agencies.

Nurse Moral Distress Likely During COVID-19 Pandemic

Moral distress constraints are present in the current COVID-19 pandemic (Jia et al., 2020). Typically, nurses spend more time at the bedside than in comparison to other healthcare professionals. This places nurses at an increased rate to experience MD due to increased exposure to COVID-19 constraints. Examples of nurses being affected by constraints during COVID-19 include nurses delaying potentially lifesaving interventions to don personal protective equipment (PPE), reusing PPE against previously accepted

standards, a limited time allowed in rooms to provide care, experiencing patients dying alone (unable to be surrounded by loved ones), and dealing with rapidly changing, at times confusing, policies (Altman, 2020).

Limited resources have limited nurses' ability to care for their patients how they would in a non-pandemic time. Continued reallocation of resources, including PPE, staffing, and time, has increased nurses' ethical concerns (Morley et al., 2020). Patients are also facing isolation during a challenging illness and sometimes death. Patients are separated from their families and nurses are forced to care for patients "behind the dehumanizing veil of plastic gowns and respirators masks" (Morley et al., 2020, para. 19). Something as simple as sharing a smile or holding a patient's hand is limited. Providers are reduced to tapping pictures of their faces to their gowns to convey a warm smile (Lakritz, 2020).

Consequences of Nurse Moral Distress

Moral distress is a significant contributing factor to burnout and increased turnover rates within nursing (Borhani et al., 2014). Additional contributing facts include actual or perceived excessive workload and increased stress (Rushton et al., 2015). Burnout is caused by the compounding effects of moral distress over time resulting from a lack of fulfillment or satisfaction with one's current job. Symptoms include emotional exhaustion, sadness, fatigue, physical ailments, depersonalization, and reduction in personal accomplishment (Rushton et al.,2015).

Nurse symptoms of moral distress can negatively affect patient quality of care, specifically, moral distress and related burnout can lead to excessive turnover, increased healthcare costs, and decreased productivity and morale (Moss et al., 2016). Decreased

nurse engagement may reduce nurses time with the patient and the nurse's concentration during patient care, resulting in quality-of-care issues (Lawrence, 2011). When looking at the impact of moral distress and burnout on hospital acquired infections, Cimiotti (2012) found that hospitals who lowered their rates of burnout also lowered their rates of infections; thus, improving quality of care.

The crescendo effect describes how repeated instances of moral distress leave a residue that builds up over time, increasing the nurse risk for developing increasingly high levels of moral distress (Epstein & Hamric, 2009). This suggests that the effects of moral distress during the COVID-19 pandemic may linger for some time. Thus, interventions will be needed to decrease nurse moral distress during and following the pandemic.

The issues of nurse moral distress and alcohol and substance use may be related. Healthcare providers with high rates of burnout also reported symptoms of post-traumatic stress disorder and alcohol and substance use (Moss et al., 2016). Providers may use the substances in an ineffective attempt to cope with burnout and post-traumatic stress disorder symptoms. Whittaker et al. (2018) found that 58% of nurses admitted to using alcohol and 42% used "substances" as a means for self-medicating to cope with moral distress or burnout. The issues of moral distress, burnout, and substance use are complexly intertwined.

Substance Use

Substance Use in General

Alcohol and substance use are of increasing concern in the United States in general and specifically in Virginia. In 2017, in ages 12 and aolder, 19.7 million

Americans had substance use disorder (Substance Abuse and Mental Health Services Administration [SAMHSA], 2018). Of those substances, alcohol is by far the most prevalent, representing 74% of substance use disorders (SAMHSA, 2018). From 2017 to 2018, there was a decrease in opioid-involved deaths, but an increase in synthetic opioid overdose deaths (*National Institute on Drug Abuse*, 2020). Rates of alcohol use are similar in Virginia to the national average (Virginia DBHDS, 2017). In 2018, "Virginia providers wrote 44.8 opioid prescriptions for every 100 persons," which is below the national average but still concerningly high (National Institute on Drug Abuse, 2020, para. 3).

There are multiple risk factors for developing alcohol and substance use disorder. Genetics play a large part, including parental alcohol and substance use and mental illness (Blankson-Bossman, 2019). Children who were exposed to alcohol and substance use early on in life are more likely to normalize their misuse. Other common predisposing factors include abuse or maltreatment, lack of supervision, poverty, lack of opportunities, and violence (Blankson-Bossman, 2019). Nurses are also at risk.

Substance Use Among Nurses

The American Nurses Association (ANA) (2015) estimates that between 6-8% of nurse's struggle with alcohol and substance use to a level that may impair their ability to care for patients. Others estimate alcohol and substance use in nursing is closer to 10% of nurses (Kunyk, 2015). This can equate to 1 in 10 nurses struggling with substance use disorder at any given time on a unit. The top four risk factors for nurses to abuse substances in the workplace are access, attitude, stress, and a lack of education (National Council of State Boards of Nursing [NCSBN], 2011). Due to their increased knowledge

of health and the healthcare system, nurses can be well adapted at concealing their substance use. This often leads to late identification of alcohol and substance use and diversion of medications from patients to the affected nurse, which can negatively affect patient care/outcomes. COVID-19 has increased stress for nurses and may also be increasing their risk for alcohol and substance use.

Risk for Nurse Alcohol and Substance Use during COVID-19

Though research is limited, it appears that the COVID-19 pandemic is exacerbating stress-related alcohol and substance use in the United States in the general population. In a survey of 1,000 adult Americans, 55% reported an increase in alcohol use over the past month during the beginning of the pandemic; while 36% reported an increase in illicit drug use (The Recovery Village Drug & Alcohol Rehab [Recovery Village], 2020). Respondents were asked about the reasons for increased use. The top three answers were coping with stress, boredom, and dealing with mental health symptoms (Recovery Village, 2020). While the sample size is small, it does support that the pandemic is leading to increased alcohol and substance use. In the Centers for Disease Control and Prevention's (CDC) Morbidity and Mortality Weekly Report, 13% of adults started using, or increased their alcohol and substance use (Czeizler et al., 2020). Adults continued to report increased stress and anxiety due to the pandemic.

The risk of pandemic-related alcohol and substance use may be particularly high for nurses. COVID-19 has placed additional constraints on nursing. According to a survey of nursing leaders across the United States, the top challenges during this pandemic are communicating, implementing, and changing policies, surge staffing and training, and emotional health and wellbeing of staff (Joslin & Joslin, 2020). COVID-19

is a novel and evolving virus. This increased stress from constant change increases a nurse's risk for developing moral distress and alcohol and substance use. A pandemic-era survey of New York City healthcare workers found that 57% of workers experienced acute stress, 48% depressive, and 33% anxiety symptoms; nurses and advanced practice providers reported higher rates than other healthcare professionals (Shechter et al., 2020). This survey highlights the impact of COVID-19 on nurses' mental health.

According to the National Council of State Boards of Nursing (NCSBN), the top four risk factors for nurses to develop alcohol and substance use are "access, attitude, stress, and lack of education (about substance use in healthcare providers)" (2011, p. 17). COVID-19 has significantly increased stress among nurses as previously described. Additionally, during COVID-19 educational initiatives revolved around new policies regarding infection control leaving less time for education about other important topics. Moreover, there is potentially increased access to substances due to increased use of control substances for procedures (intubations, sedation, pain, and other procedures). COVID-19 units are creating overflow areas and recruiting additional staff to help with surges. This means areas are being transformed to handle patients, equipment, and medications they are not designed for (Abel, 2020). This may increase access to controlled substances for nurses who have not previously had this kind of access.

Alcohol and Substance Use and Patient Quality of Care

There are also important implications for nurse substance use disorder and patient safety. Nurses who suffer from substance use disorder pose a risk to their patients as they are more likely to be impaired during care. A nurse under the influence may have "impaired judgement, slower reaction time, divert prescribed drugs…neglect of patients,

and make a variety of other errors" (National Council of State Boards of Nursing [NCSBN], 2011, p. 8).

Alcohol and substance use may also affect a nurse's attendance and ability to adequately care for a full patient load. Moss et al. (2016), estimated that it takes $65,000 to train a critical care nurse. Between missed days from the effects to alcohol and substance use to onboarding new staff, it could be very costly to a for a healthcare system.

Methods

Theoretical Framework

The theoretical framework for this project was Promoting Action on Research Implementation in Health Services (PARIHS). PARIHS begins with finding evidence to support intervention for the project from the literature and the local setting (Rycroft-Malone, 2004). The second step in PARIHS is to provide context to guide any potential change (Rycroft-Malone, 2004). Information about context is carefully gathered from the literature and the local setting in this step. The final PARIHS step is facilitation (Rycroft-Malone, 2004). Facilitation must happen when the context is right and be based on evidence.

Project Design

Sample

There are 764 registered nurses employed at the research site (*Redacted*, 2019). A total of 363 nurses were emailed the survey. All in-patient nurses and emergency department nurses were recruited to participate in this study. Inclusion criteria included: registered nurses (RN), licensed practical nurses (LPN), advanced practice nurses

(APRN), employed in an in-patient unit or the Emergency Department. Nurses who work in the Behavioral Health Unit were excluded.

Setting

The setting was a community hospital in rural Virginia. The facility is part of a larger, regional health system. It is a 238-bed hospital that serves a surrounding area of approximately 218,000 people *(Redacted,* n.d.).

Survey

Following Institutional Review Board approval at the hospital site and James Madison University, a QuestionPro (2021) electronic survey was sent to 363 eligible participants by the individual unit nurse educator. Participants were notified of the survey in an email to their work email address and reminded to complete the survey in two subsequent follow-up emails two and three weeks after the initial email. Informational flyers were also distributed to participating unit's breakrooms with a QR code link to the survey (Appendix A). Consent was obtained as the first question on the survey.

Instruments

Instruments used included the Moral Distress Scale for Healthcare Provider (MMD-HP), Alcohol Use Disorders Identification Test (AUDIT), and Drug Abuse Screening Test (DAST-10). Demographic data was also collected. In addition, participants were asked how often they cared for COVID-19 patients in a single item question developed by the researchers.

Demographics. Participants were asked to enter their age. Sex and gender were available via a drop-down list. Participants were asked their level of licensure (LPN, RN, APRN), their primary role (direct patient care, administration, support), their primary and

secondary units, and their average length of shift (LOS) in hours. An open-ended question was asked about the average number of patients cared for during a shift.

COVID-19 Care Hours. This item was created by the researchers. Participants were asked to estimate the average weekly time spent caring for Covid-19 patients over the last 3 months using the following ranges: None of the time, Some of the time, Most of the time, All of the time

MMD-HP. This scale represents the most recent scale to assess moral distress in healthcare workers. The MMD-HP is a 27-item survey that utilizes a dual 5-point Likert scale (0-4) to assess the frequency and severity of an experience in terms of moral distress for a participant (Epstein et al., 2012). Zero represents no experience or no moral distress and four is very frequently or very distressing. During analysis the frequency is multiplied by the severity. Scores can range from 0-432. Participants may add additional morally distressing situations at the end of the scale. There are two yes/no questions that assess retention. In the original study, there were no defined groups of moral distress based on scores (Epstein et al., 2012). The validity is supported by a Cronbach's Alpha of 0.93 and the reliability by assessing a negatively correlated with perceived ethical climate in which $r = -0.581$ and $p < 0.001$ (Epstein et al., 2012). A more recent use of the tool found this tool was reliable in determining comparison levels of moral distress when comparing nurses to providers ($p<0.001$) and determining there was more moral distress present in those considering leaving their current position ($r=-0.55$, p0.001) (Epstein et al., 2019).

AUDIT. The AUDIT is a 10-item scale used to assess alcohol dependence (World Health Organization [WHO], 1982) (Appendix B). Each question is multiple choice with

the value of answers ranges from 0-4 points. The range of the potential scores is 0-40 points. Levels of use include low risk, risky, harmful, and severe.

Low – 0-3, indicates low risk for health of social complications

Risky – 4-9, may develop health or existing problems may worse

Harmful – 10-13, has experienced negative effectives from alcohol use

Severe – 14+, could benefit from more assessment and assistance

DAST-10. The DAST-10 is a 10-item scale that looks at drug (excludes alcohol and tobacco) use over the last twelve months (Skinner, 1982) (Appendix B). Each item is a yes or no question. Every "yes" answer gives the participant one point, except for questions three in which a "no" gets a point. The higher the score, the more severe the drug abuse. Levels of use include no problem, low, risky, harmful, and severe. The tool starts by asking which recreational drugs to have you used in the past year. Available answers presented in a select all that apply list, including methamphetamines, cannabis, inhalants, tranquilizers, cocaine, narcotics, hallucinogens, and other. The first two items of the DAST-10 scale were analyzed. Item one asks what illicit substances are used. The second item asked whether there is drug use other than medical use.

Resources, Supports, Risks & Threats

The participating facility's and James Madison University's Institutional Review Boards approved this project in March 2021. The investigator did not perceive more than minimal risks from the participant's involvement in this study, that is, no risks beyond the risks associated with everyday life. Surveys were completed anonymously through QuestionPro(2020). Identifying information was not collected.

Due to the sensitive nature of the topics, some emotional distress may have been possible. At the end of the survey, participants were provided information about the facility's Employee Assistance Program if they deemed counseling beneficial. Information for the Virginia Board of Nursing's Alternative to Discipline Program for Substance Use Disorder was available for those participants who feel that is beneficial.

Timeline

February 2021	25	Obtained site's Evidence Based Practice and Research Shared Governance Council approval
	28	Submitted project for IRB approval at site and JMU
March 2021		Allowed time for revisions and re-submission
		Received approval for project implementation
April 2021	15	Sent initial survey to all nursing staff (convenience sample)
		Nursing units to include nurses working in the emergency department and all in-patient nursing units, excluding nurses working in behavioral health.
	22	Sent reminder email
	29	Sent reminder email
May 2021	6	Survey closed
	19	Data organized
July 2021		Analyzed data

August-October 2021	Wrote descriptive data findings
November 2021	Disseminated analysis to facility leadership

Evaluation Plan

The analysis of the survey information was completed in IBM SPSS Statistics 27 (IBM Corp, 2020). The following four variables, all related to patient outcomes via nurse wellbeing, were assessed for the community hospital and recommendations for interventions were made.

1. Average weekly time spent caring for COVID-19 patients over the last 3 months
2. Levels of moral distress (As measured by the Moral Distress Scale - Healthcare Professionals)
3. Alcohol use risk as measured by the Alcohol Use Disorder Identification Tool
4. Substance use risk (two single-items)

Frequency statistics and measures of central tendency were used to describe the time nurses spent caring for COVID-19 patients, levels of moral distress, alcohol use risk, and substance use risk.

Results

Demographics

A total of 57 nurses completed the survey. If unit educators gave all eligible nurses the survey, then the response rate was 15.7% overall. When broken down into unit categories, the critical care unit and progressive care units had individual response rates of 59.0% and 36.2%, respectively. Participant demographics are described below and summarized in Table 1.

Table 1

Participant Demographics

Variable	Range	n	percent
Age	22-29	25	43.9
	30-39	19	33.3
	40-49	6	10.5
	50-59	4	7.0
	60-69	2	3.5
	70+	1	1.8
Sex	Female	52	91.2
	Male	3	5.3
	Preferred not to answer	1	1.8
	Missing	1	1.8
Gender Identity	Female	52	91.2
	Male	3	5.3
	Transgender, nonbinary/non-conforming	0	0
	Prefer not to answer	2	3.6
Licensure	RNs	55	96.5
	APRN	2	3.5
Role	Direct Care	55	96.5
	Administrative role	1	1.8
	Did not answer	1	1.8
Length of Shift in Hours	0- 4	1	1.8
	8-11	6	10.5
	12	28	47.4
	Greater than 12	16	28.1
Primary Unit	Critical Care Unit	23	40.4
	Progressive Care Unit	17	29.8
	Medical/surgical units	13	22.8

	Other		2	3.5
Secondary Unit	Progressive Care Unit		8	14
Average Number of Patients Cared for in a Shift		0	1	1.8
		1	1	1.8
		1.5	1	1.8
		2	21	36.8
		3	3	5.3
		3.5	2	3.5
		4	14	24.6
		6	12	21.1
		12	1	1.8

Age and Gender

Participant age ranged from 22-73 years old. The most representative age group was 20-29 years (25, 43.9%). Most participants (52, 91.2%) identified as female. Gender identity largely reflected sex.

Licensure

Both advanced practice and registered nurses completed the survey. Of the sample, 55 participants (96.5%) were RNs. Two APRNs participated, for 3.5% of the sample.

Work Characteristics

Nurses who provide direct care to patients represented 55 participants or 96.5% of the sample. One nurse (1.8%) identified as having an administrative role and one nurse (1.8%) did not answer the question. Of nurses identifying as providing direct care, the majority, 87%, reported working 12 hour shifts or longer. The critical care unit was the most representative sample pool with 23 participants (40.4%). The progressive care unit had 17 participants (29.8%).

Outcomes of Interest

COVID-19 Care Hours

All 57 participants had cared for patients diagnosed with COVID-19. Regarding current work, one participant did not care for COVID-19 patients. Most nurses cared for patients with COVID-19 some of the time (28, 49.1%) or most of the time (25, 43.9%). A few participants (3, 5.3%) cared for patients with a COVID-19 diagnosis all of the time.

Moral Distress – MMD-HP

The mean moral distress was 188.1. The topic five root causes of moral distress among staff included 1) families seeking aggressive care for their loved ones, 2) providing futile care, 3) unsafe patient ratios, 4) lack of resources (chaplains, environmental services, equipment, and PPE), and 5) lack of administration support. Among people who reported any moral distress, the bottom third ranged from 69-147. The middle third scored 150-200. The high third's scores ranged from 206-369.

The result of the two single item questions about intention to stay follow. The end of the scale inquired about intent to stay. A total of 36 (63.2%) nurses indicated that at some point they have considered leaving their position due to moral distress but did not leave. Ten nurses (17.9%) indicated they have never considered leaving or left a position and 10 (17.9%) indicated they have previously left a position due to moral distress. A third of participating nurses (19, 33.9%) were considering leaving their current position due to moral distress.

Participants wrote-in root causes of moral distress they felt were not covered in the structured scale questions. Six nurses responded to the opened ended question adding to the root causes of moral distress. Nurses described floating to other units, family of COVID-19 positive patients not being able to see loved ones and poor communication,

and feeling unable to support coworkers also created morally distressing situations. The top morally distressing factors are listed in Table 2.

Table 2

Most and Least Distressing Factors Causing Moral Distress in Nurses

Variable	Mean	SD
Most Distressing		
Follow the family's insistence to continue aggressive treatment even though I believe it is not in the best interest of the patient.	11.91	4.04
Continue to provide aggressive treatment for a person who is most likely to die regardless of this treatment when no one will make a decision to withdraw it.	10.76	4.30
Be unable to provide optimal care due to pressures from administrators or insurers to reduce costs	9.98	5.61
Experience compromised patient care due to lack of resources/equipment/bed capacity.	9.94	4.40
Experience lack of administrative action or support for a problem that is compromising patient care.	9.35	4.94
Least Distressing		
Work within power hierarchies in teams, units, and my institution that compromise patient care.	4.60	3.67
Feel pressured to ignore situations in which patients have not been given adequate information to ensure informed consent.	4.27	3.60
Witness a violation of a standard of practice or a code of ethics and not feel sufficiently supported to report the violation.	3.71	2.96
Be pressured to avoid taking action when I learn that a physician, nurse, or other team colleague has made a medical error and does not report it.	3.18	2.29
Feel unsafe/bullied amongst my own colleagues.	2.54	2.35

Alcohol Use - AUDIT

The mean audit score was 3.41. Thirty-four (59.6%) nurses' scores placed them in the low-risk category. Being low risk means that there is no or little risk for negative impact in their life or dependence to develop in regard to their alcohol use. A third (19, 33.3%) of the participants engaged in risky alcohol use. Risky use indicates some risk of

negative impacts to their life but not for long-term impacts or serious consequences. Few participants (3, 5.3%) engaged in harmful alcohol use behaviors. Harmful use indicates that there has been negative impact with consequences from their alcohol use. Zero nurses scored in the severe range.

Substance Use – DAST-10

Some nurses (12, 21.1%) reported using illicit substances. When asked to specific which type of substance from a select all that apply list, including methamphetamines, cannabis, inhalants, tranquilizers, cocaine, narcotics, hallucinogens, and other, "other" (8, 14%) was selected most frequently, followed by cannabis (3, 5.3%), and cocaine (1, 1.8%). Most (44, 77.2%) nurses did not respond to the frequency of use question. Two nurses (3.5%) identified as using substances monthly or less, while three (5.3%) reported using substances daily or almost daily (3, 5.3%).

Table 3

Summary of Participant Outcomes

Variable		n	%
Ever cared for patients with COVID-19		57	100
Time spent caring for patients with COVID-19 in the past 3 months	None of the time	1	1.8
	Some of the time	28	49.1
	Most of the time	25	43.9
	All of the time	3	5.3
Ever considered leaving a position due to moral distress	No, I have never considered leaving or left a position	10	17.5

	Yes, I considered leaving, but did not leave	36	63.1
	Yes, I have left a position	10	17.5
	Missing	1	17.5
Are you considering leaving your position now due to moral distress?	Yes	19	33.3
	No	37	64.9
Substance Use		12	21.1
Alcohol Use	Low	34	59.6
	Risky	19	33.3
	Harmful	3	5.3
	Severe	0	0

	Mean	SD	Min - Max
Moral distress	188.1	66.0	69 – 369
Alcohol use	3.4	3.2	0-12

Discussion

The purpose of this project was to describe the rates of moral distress, the time spent caring for COVID-19 positive patients, alcohol and substance use among nurses at a rural community hospital. These rates are described above. A discussion of these rates compared to expected rates follows when relevant. Evidence-based recommendations for interventions are made.

COVID-19 Care Hours

The single item about number of COVID-19 hours was created for this research and there is no other study in the literature that measures nurse time in caring for

COVID-19 patients this same way. Another study that looked at time a nurse spent caring for patients with COVID-19 use a measure of hours per week and reported that most nurses in that sample spent two hours each week caring for patients with COVID-19 (Li et al., 2020). By comparison, in this study, most nurses (93%) felt they had cared for COVID-19 positive patients some or most of the time. This was potentially influenced by the high number of nurses in the sample from critical care and progressive care units. There may also be important variations in time caring for COVID-19 patients by geographic area. Differences in measurement make comparisons difficult. Thus, this study adds some beginning ideas to the scientific literature about the volume of time nurses perceive they spent specifically caring for COVID-19 patients. Although the qualifiers of "some" and "most" of the time lack specificity, it is logical to conclude that for nurse in this sample work has changed during the pandemic and that many nurses spend time caring for COVID-19 patients as part of their routine work-life now. More research is needed to know if this was the experience of other nurses during the COVID-19 pandemic and more importantly, research to understand the outcomes of this potential change to nurses' work.

Moral Distress

Before the COVID-19 pandemic, moral distress was a documented problem in healthcare (Epstein et al., 2019). With increased unknowns and stress on nurses during the COVID-19 pandemic, the concern for moral distress has been elevated during this time (American Association of Critical Care Nurses, n.d., Joslin & Joslin, 2020, Shechter et al., 2020). The results of this survey indicate this may be the case. Previously published survey results of nurse moral distress reported a mean level of 112.3 (Epstein et al., 2019), whereas mean moral distress was notably higher for this sample at 188.1. Moreover, results of this survey differed from another recent measure of intensive care moral distress during the COVID-19 pandemic who reported a mean moral distress of 116.52 (Malliarou et al., 2021). These differences may have been caused by other

differences in the nurse samples, thus more research is needed to fully understand the effect of the COVID-19 pandemic on nurse moral distress. The recent intensive care moral distress survey indicated that nurses related increase moral distress levels to the short and/or reuse of PPE, ineffective communication, lack of staffing, lack of family presence, and fear of transmission (Lake et al., 2021). Lake and colleagues used a different scale which does not allow for comparison of total moral distress. This survey identified some similar root causes to moral distress as Lake and colleagues. Units that experience the highest number of COVID-19 admissions, critical care unit and progressive care unit, had the highest participation rates in the survey. This may indicate that the surveyed topics most resonated with nurses from these units.

Alcohol Use

The specific rates of alcohol misuse among nurses are unknown. The American Addiction Centers (2021) estimates that 10% of nurses will misuse drugs or alcohol at some point in their career. Moreover, although it appears nurses overall consume less alcohol than the general population, they may participate in more binge drinking (The American Addiction Center, 2021). Another study found that substance misuse, addiction, and abuse ranged from 14-20% among nurses (Monroe & Kenaga, 2010). Overall alcohol use during the pandemic has increased for the general population (Czeizler et al., 2020). This study found that 21 (38.8%) of nurses are participating in risky or harmful alcohol behaviors. This sample's rates demonstrate is a marked increase from even the high-end estimates of nursing substance use in the general population prior to the pandemic. It would be ideal to compare these rates to prior rates from this sample, but that information is unknown. What is known is that there is risky alcohol use in this sample. There is potential for negative patient, nurse, and systemic outcomes because of the volume of elevated alcohol use. More research is needed to determine whether there is a problem of increased alcohol use among nurses in general during the COVID-19 pandemic and the related effects on patient care.

Substance Use

In epidemiological research, alcohol and substance use disorders are often studied together. Rates differentiating between alcohol use and substance use during the COVID-19 pandemic are not available. The CDC reported in June 2021, that in the general population, 13% of respondents have started or increased their substance use (both alcohol and other substances) to cope with COVID-19 induced stressors, and 40.9% of survey participants reported adverse mental health effects. In addition, 24.7% of essential employees reported increasing substance use due to stressors related to the COVID-19 pandemic (Czeizler, 2021). The current study found that 21.1% of sampled nurses admitted using illicit substances within the past 12 months, while 5.3% reported using them daily or almost daily. It is estimated that substance use among nurses reflects the general population of 6%-10 % (ANA, 2008; Kunyk, 2013). Comparing substance use rates in this population to what is known about substance use in the general population pre-pandemic indicates an increase in substance use among nurses since the COVID-19 pandemic.

Nurses do not care for patients in a vacuum. Participating in risky or harmful behavior outside or inside the workplace may harm patient care. Due to nurses important role in caring for vulnerable patients, they must provide safe and competent care. Nurses engaging in risky or harmful behaviors may be putting their patients at risk (NCSBN, 2011). This survey indicated that some nurses are participating in substance use that is potentially impacting the nurses lives. The substance use may have a negative impact on patient care. The risk for nurses developing substance use disorders relates to lack of knowledge, stress, and increased access (NCSBN, 2011). The COVID-19 pandemic has increased the stress of nurses, shifted traditional educational and monitoring resources towards COVID-19 care, and impacted nursing to patient ratios. All of this increases the potential for abuse by nurses. There is no baseline data to compare current nursing substance use to the results of this survey. the SAMHSA (2018) estimates that the general

substance misuse in healthcare reflects that of the general population, which would put the baseline at between 10-15%.

Context

This section covers the current facility context that guided the research and clinical teams' decision-making about facilitating an intervention as part of this work. The rural community hospital was feeling the impact of COVID-19. Staffing was an issue due to increased number and acuity of patients. Further, staff required quarantine for extended periods of time. Staff have experienced disruptions in supply chains and ever-changing policies to reflect the most up-to-date information in a continually changing environment. Staff support includes managers of Patient Care Services and the Nursing Professional Development team.

Given the acute situation, context dictates that more time is needed before interventions address the issues can be completed. The facility continued to be in crisis mode. A strength of this theory is this careful observation of the context. As the context changes, the plan should change. Thus, an intervention can be implemented when the acute situation has passed. The final theoretical step is facilitation (Rycroft-Malone, 2004). Facilitation of an intervention will happen when the context is right. The lead investigator is an employee of this organization and will be invested in the health of this organization beyond doctoral study. The research team is meeting with hospital leadership to present survey results and discuss implications and potential intervention. Thus, there is a plan for sustainability and facilitation of the work that goes beyond this proposal for the involved facility. It is also possible to consider implications for the broader scientific community and to clinical practice. Considerations of implications should acknowledge the limitations of this study.

Limitations

This study is not without limitations. First was the limited response rate. The principal investigator did not distribute the recruitment emails, so how many nurses were asked to complete the survey is unknown. If all eligible nurses (363) were asked to participate, then 57 participants are low. Also, there is no baseline data to compare pre-COVID-19 levels of moral distress, alcohol, and substance use in this sample. Due to an input error, only portions of the DAST-10 scale were usable. The ten questions are phrased in the positive; however, one question was asked in the negative when transcribing the scale. The responses to the negatively formed questions did not line up when the number of nurses who identified as using substances in the first two questions. Therefore, only questions one and two, which substances and how often you use them, from the DAST-10 were considered in the analysis of this data. The final limitation is that the MMD-HP is a relatively new scale. Thus, there are no definitive levels that indicate moral distress. Suggested scoring for the tool suggests breaking the groups into thirds as least likely, somewhat likely, and likely to experience moral distress (Epstein et al., 2012). The researcher works at and knows the sample and the facility. This may have limited objectivity of data interpretation, it also may provide useful insights for data interpretation. Despite its limitations, this study adds valuable data about nurses' wellbeing during the COVID-19 pandemic not known previously. Moreover, existing literature can guide recommendations included in the implications.

Implications

As the healthcare population continues to experience COVID-19 surges, the implications of this study are important. This study demonstrates that there are nurses experiencing moral distress during the COVID-19 pandemic. This moral distress has the potential to negatively impact patient care through increased burnout and turnover and decreased engagement (Cimiotti et al., 2012; Lawrence, 2011; Moss et al., 2016). As the pandemic continues, nursing leaders will need to be aware of the potential development of moral distress within nursing staff.

The benefit of having completed this assessment, evaluating specific root causes of moral distress, is that leadership now has specific target areas to combat moral distress in the institution. Knowing the specific root causes of moral distress enables targeted interventions to help reduce moral distress. Based on the results of this study, the facility should focus on improving end-of-life decision making, providing adequate resources and staffing, and better administrative support/communication. A robust campaign to improve patient access to end-of-life decision making tools such as medical power of attorney and living wills, is currently underway in the facility (*Redacted,* June 14, 2021). This campaign may help the nurses feel they are providing care according to the patient's wishes, especially when they cannot make their wishes known verbally. In addition, to help alleviate the burden that end-of-life decisions and care can place on nursing staff, bedside nursing staff should be encouraged to attend and actively participate in family meetings (Pecanac & King, 2019). Attending these meetings will hopefully allow nurses to be present at crucial decision times enabling advocacy among the patient, family, and staff team.

More recent studies have found the importance of building individual and unit resilience during the time of COVID-19. Leaders need to encourage self-care and wellbeing. Leaders can do this by spending individual time with nurses who need growth and development by linking with mentors, writing letters of gratitude for an employee, leading the unit in celebrations of staff, completing daily rounds on staff (including checking in with them to make sure they are doing well both at and outside of work), improving work flow, and secure nurses physical needs are met (Perkins, 2021). In addition to individual resilience and self-care needs, a leader must look at the unit needs. While there is limited research on building resilience, some suggested strategies include promoting gratitude, leadership should focus on creating group cohesion among members and seek to recognize staff who are showing signs of burnout early (Baskin, 2021). These actions put a large focus on leadership to help recognize and deploy strategies to combat moral distress and burnout. Most of the nurses who completed this study identified as direct care nurses. This survey did not assess if nurses in leadership positions are experience the same rates of moral distress. Nurse leadership moral distress should be assessed to understand if they are well equipped to provide leadership supporting nurse wellbeing.

While building individual and unit resilience is in its early stages of testing and implementation, it cannot account for the complete answer to helping nurses with moral distress. Dr. Lucia D. Wocial (2020) argues for mapping of moral distress, which allows for the identification of individuals and systems contributing to moral distress. Based on the results of the mapping, ethical reflection and system changes need to result (Wocial,

2020). Systems changes will promote a culture that values nurses' feelings and gives nurses input into creating the best work environments.

In a qualitative study of nurses' ethical dilemmas and coping strategies during COVID-19, nurses identified that 1) active learning, 2) reaching out for support, and 3) maintaining presence helped them to deal with the increased ethical complexity of this time (Jia et al., 2021). While it is not appropriate to generalize these ideas to the population of nurses, more research could be done around the ideas Jia and colleagues identified to determine new ways for nurses to cope with potentially morally distressing situations.

There are important implications related to substance use among nurses. The NCSBN (2011) recommends that nurses be made aware of the potential for misuse, including risk factors, recognizing misuse, and safe and confidential reporting structures. Interventions that target nurse managers should be a focus as they often have the most interaction with bedside staff and are leaders within their unit. The NCSBN (2011) focuses manager training on recognizing signs of misuse, how to report a suspected nurse, maintaining an open-door policy, providing staff education, and transitioning a nurse with a history of alcohol and substance use back to the bedside. The pandemic forced many managers into crisis mode, yet the safety of staff and patients needs to be first priority as the initial crisis resolves. It is important to provide support for staff to promote their wellbeing and competent care of patients.

Recommendations

- Promote active nurse engagement in all family meetings, especially regarding end of life decisions

- Concentrate efforts on building individual resilience
- Train leadership in identifying early signs of moral distress and alcohol and substance use
- Create unit leadership tool kits to help nurses address and process moral distress and alcohol and substance use
- Foster a facility environment that values open communication regarding moral distress and alcohol and substance use

Conclusion

The COVID-19 pandemic is reshaping our world and making significant changes to our healthcare system. Given the literature on the crescendo effect of moral distress and the nature of substance use disorder, the lasting effects to nurses during the COVID-19 pandemic will be important to the profession for years to come. Nursing leadership needs to focus on decreasing factors that lead to moral distress and caring for nurses with moral distress and substance use disorder.

Appendix A

Recruitment Flyer for Unit Breakrooms

IRB Information

CALLING ALL NURSES

You are being asked to participate in a research study conducted by Lauren Childers from [redacted] and JMU.

This study consists of a voluntary online survey that is confidential.

Purpose: To describe levels of moral distress and substance use among nurses in a community hospital during the COVID-19 pandemic.

Who: LPNs, RNs, APRNs

Time Required: 15-20 minutes

Questions? Contact Lauren Childers childele@jmu.edu

Appendix B

Alcohol Screening Questionnaire (AUDIT)

In this section we ask questions about your use of alcohol. All information is anonymous, meaning that no-one can identify you with your responses. Information will only be presented in aggregate (grouped together) in our presentation of the findings.

1 drink equals 12 ounces of beer OR 5 ounces of wine OR 1.5 ounces of liquor

	Never	Monthly or less	2 – 4 times a month	2-3 times a week	4 or more times a week
How often do you have a drink containing alcohol?	Never	Monthly or less	2-4 times a month	2-3 times a week	4 or more times a week
How many drinks containing alcohol do you have on a typical day when you are drinking	0-2	3 or 4	5 or 6	7-9	10 or more
How often do you have five or more drinks on one occasion?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily
How often during the last year have you failed to do what was normally expected of you because of drinking?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily
How often during the last year have you needed a first drink in the morning to get yourself going after a heavy drinking session?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily
How often during the last year have you had a feeling of guilt or remorse after drinking?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily
How often durig the last year have you been unable to remember what	Never	Less than monthly	Monthly	Weekly	Daily or almost daily

happened the night before because of your drinking?					
Have you or someone else been injured because of your drinking?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily
Has a relative, friend, doctor, or other health care worker been concerned about your drinking or suggested you cut down?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily

The above publicly available content is directly quoted from the World Health Organization (1982).

Appendix C

DAST-10

In this section we ask questions about your use of substances. All information is anonymous, meaning that no-one can identify you with your responses. Information will only be presented in aggregate (grouped together) in our presentation of the findings.

Which of the following substances do you use? SELECT ALL THAT APPLY

- Methamphetamines (speed, crystal)
- Cannabis (marijuana, pot)
- Inhalants (paint thinner, aerosol, glue)
- Tranquilizers (valium)
- Cocaine
- Narcotics (heroin, oxycodone, methadone, etc.)
- Hallucinogens (LSD, mushrooms)
- Other

How often do you use the above substances?

- Monthly or less
- Weekly
- Daily or almost daily
- Not applicable

1.	Have you used drugs other than those required for medical reasons?	Yes	No
2.	Do you abuse (use) more than one drug at a time?	Yes	No
3.	Are you able to stop using drugs when you want to?	Yes	No
4.	Have you ever had blackouts or flashbacks as a result of drug use?	Yes	No
5.	Do you feel guilty or bad about your drug use?	Yes	No
6.	Does your spouse (or parents) ever complain about your involvement with drugs?	Yes	No
7.	Have you neglected your family because of your use of drugs?	Yes	No
8.	Have you engaged in illegal activities in order to obtain your drugs?	Yes	No
9.	Have you experienced withdrawal symptoms (felt sick) when you stopped taking drugs?	Yes	No
10.	Have you had medical problems as a result of your drug use (i.e. memory loss, hepatitis, convulsions, or bleeding)?	Yes	No

Have you ever injected drugs?

- Never
- Yes, in the past 90 days
- Yes, more than 90 days ago

Have you every been in treatment for substance abuse?

- Never
- Currently
- In the past

The above publicly available content is directly quoted from Skinner (1982).

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