MORAL DISTRESS IN MEDICAL EDUCATION: IT STARTS AT THE BEGINNING

BY

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ABSTRACT

In 1984 Andrew Jameton coined the term “moral distress” to describe a phenomenon among nurses in which they felt unable to act on their moral beliefs due to external pressures in the medical field. Over time, we have gained a deeper understanding of the reach and magnitude of moral distress. Other health care professionals and students pursuing health care careers are also vulnerable to external pressures from their environments, mentors, and colleagues. There has been little research investigating moral distress in the medical education process. The research that does exist focuses largely on the stages of medical school and residency rather than pre-medical undergraduate education. This thesis explores the sources, prevalence, and methods to alleviate moral distress throughout medical school and residency, as well as in pre-medical undergraduate programs. Ultimately, this thesis argues that moral distress can occur in any stage of medical education, and that unresolved moral distress across all stages of medical education likely contributes to provider burnout in the future. We need to acknowledge that moral distress is present throughout medical education and act to prevent and address it.

INTRODUCTION

In the first chapter I describe the concept of moral distress and surrounding topics in the literature. I argue that moral distress has the potential to arise in any stage of medical education or throughout the individual's career. While some instances of moral distress in physician decision making may be due to pressures from practicing as a health care professional, evidence suggests that the negative effects of moral distress may be carried over from events occurring in the education process. Given the close relationship of moral distress and physician burnout, I examine instances of moral distress occurring in different stages of the medical education process. I suggest that moral distress needs to be taken seriously everywhere, including in the early stages of medical education where less attention has been focused.

In chapters two and three I examine the sources, prevalence, and current efforts to alleviate moral distress in residency, medical school, and undergraduate pre-medical education. The responsibilities and pressures at each stage of medical education present unique stressors as well as shifting professional expectations and varying availability of training resources.

In the final chapter, I compare moral distress in medical education with Jameton's original focus on nurses' experiences with moral distress. I discuss recommendations

from the literature as well as my suggestions for alleviating moral distress throughout medical education and preventing it in future physician careers. Several resources suggest promoting a "speaking up" culture for trainees to voice their discomfort, being conscious of the "hidden curriculum" in training environments, and promoting ethics and moral distress training tailored to each stage of medical education. I suggest that attention should be shifted to undergraduate pre-medical education which serves as a foundation for medical school. Acknowledging and addressing moral distress in the beginning of the medical education process, rather than waiting until medical school, allows for more experience identifying, navigating, and showing resilience in the face of distressing situations. Such actions may minimize the likelihood of moral distress, and in turn, physician burnout in the long run.

CHAPTER ONE

DEFINING THE CONCEPT OF MORAL DISTRESS

This chapter provides background information on the concept of moral distress. I introduce the original account of moral distress by Andrew Jameton, followed by arguments that challenge the scope of his definition. I discuss arguments for broadening the scope of moral distress, concepts related to moral distress, and concerns about increasing the exploration of moral distress topics. Finally, I describe the relationship between unresolved moral distress and symptoms of provider burnout. This information serves as a foundation for the following chapters that explore the effects of moral distress in populations outside of the nursing profession.

Jameton's Definition of Moral Distress

The term moral distress was coined in 1984 by philosopher Andrew Jameton. It described a phenomenon among nurses in which they felt unable to act according to their moral beliefs due to external pressures. Jameton focused on the influence of institutional policies on individual actions. He defined moral distress as "when one knows the right thing to do, but institutional constraints make it nearly impossible to pursue the right course of action" (Jameton 1984, p 6). Commentators since stated that in addition to certain policies which dictate how nurses perform in the workplace, pressures from co-

workers, lack of resources or training, and hierarchal orders have the potential to contribute to moral distress. These factors affect the mental and emotional health of individuals and restrict their ability to effectively care for patients and fulfill professional duties (McCarthy and Monteverde 2018, p 320).

Jameton later expanded his definition of moral distress to consider elements of both initial and reactive distress (McCarthy and Monteverde 2018, p 321). He distinguished initial distress as the feeling of frustration, anger, and anxiety experienced when an individual realizes they cannot perform the morally correct action, and reactive distress as the shame and trauma felt after failing to do what they believed was right (Jameton 1993, p 544). The expanded version of Jameton's definition accounts for the psycho-emotional responses accompanying the failure to act in a morally appropriate way which ultimately lead to long lasting feelings of anxiety, helplessness, and self-doubt (McCarthy and Monteverde 2018, p 321). Jameton's definition of moral distress continues to be credited as the first explanation of the phenomenon; however, recent literature has challenged the scope and nature of the traditional definition. The following sections of this chapter explore challenges with Jameton's account of moral distress and suggest modifying the definition.

Challenges with Jameton's Account of Moral Distress

Although very few people deny the presence and consequences of moral distress in the medical field, some authors have challenged the foundation of Jameton's definition. Many critics, including Carina Fourie, suggest Jameton failed to identify key features for recognizing and measuring contributors of moral distress. She identifies unanswered questions from Jameton's definition by stating: "Jameton's discussion prompts the question: what kind of phenomenon is moral distress then? Is it a psychological response to an ethical phenomenon? Or is it the phenomenon that prompts the response? Another way of asking this is, is it meant to be an outcome or the possible cause of that outcome? Although Jameton does not make this clear, his discussion of moral distress implies that it is both" (Fourie 2015, p 93). McCarthy and Monteverde, who have analyzed Fourie's response, suggest that this categorizes moral distress as a compound phenomenon. Fourie believes Jameton combines the ethical cause and resultant symptoms that occur when an individual is compelled to act against his or her moral beliefs (McCarthy and Monteverde 2018, p 322). While this may not be a problem in itself, combining the cause and symptoms of moral distress under Jameton's definition may make the problem difficult to assess through empirical research and address in a practical manner.

In addition to the lack of clarity between the causes and symptoms of moral distress, Fourie argues that Jameton's definition is unreasonably narrow. By focusing

only on institutional constraints as a condition for moral distress, other morally relevant experiences are discounted as legitimate sources of conflict (McCarthy and Monteverde 2018, p 323). Rather than accepting that only hospital policies or workplace dilemmas contribute to moral constraint, Fourie argues that a range of morally relevant experiences could serve as sources of conflict (Fourie 2015, p 97). Fourie, as well as many other critics of Jameton's account, have modified his definition of moral distress to create their own adaptations. In most cases, these revisions have broadened Jameton's definition of moral distress to include a wider range of situations under one overarching concept. The next section of this chapter describes arguments in favor of broadening the definition and application of moral distress.

Broadening the Scope of Moral Distress

Stephen Campbell, Connie Ulrich, and Christine Grady serve as a few examples of the many authors who have campaigned for a broader understanding of moral distress. They believe a wider range of situations may be framed by an umbrella concept of moral distress. They state that adopting a broader definition of moral distress does not take away from the foundational perspective of Jameton's work, but strengthens its application in modern day health care (Campbell et al. 2018, p 3). In a recent paper, they introduced six morally compromising situations, all possessing similar features to the effects of moral distress, which would not be included under Jameton's original definition. They argue that there is no principled reason why the definition of moral

distress should exclude these cases, which include the topics of moral uncertainty, mild distress, delayed distress, moral dilemma, moral bad luck, and distress by association (Campbell et al. 2018 p. 3). I will outline their arguments for including each of these cases in the following paragraphs.

Under Jameton's definition, moral distress arises only in cases where the individual understands the morally correct course of action and is unable to follow it through. This fails to account for situations of moral uncertainty where the individual does not understand or acknowledge the morally right course of action. Campbell and colleagues propose that even without knowing the morally right course of action, it is possible to experience distress in the form of guilt or unease (Campbell et al. 2018 p. 3). Similarly, mild distress and delayed distress give rise to emotions similar to moral distress, but bypass Jameton's original definition. Although the most disturbing or significant cases of moral distress create intense and immediate feelings which violate moral integrity, individuals may also be compromised in less momentous or immediate ways (Campbell et al. 2018 p. 4). Negative feelings resulting from mild and delayed distress can accumulate over time and be identified as unresolved "moral residue" from the initial event. If left unaddressed, the moral residue of these cases may have adverse consequences to the individual's wellbeing, compassion, and productivity (Campbell et al. 2018 p. 4).

Campbell and colleagues also advocate for cases of moral dilemma, moral bad luck, and distress by association to be included in a broader definition of moral distress. In Jameton's definition of moral distress, moral values and opposing institutional restraints pull individuals in different directions. Moral dilemmas are similar to moral distress, to the extent that the individual is pulled in competing directions, although this is done by the individual's moral code itself rather than by institutional pressures (Campbell et al. 2018 p. 5). In situations where all available options are morally distasteful, the individual may experience feelings comparable to moral distress. Campbell and colleagues describe this situation as moral bad luck and elaborate that the individual may retrospectively question whether they should have acted differently in choosing between two poor outcomes (Campbell et al. 2018 p. 5). Feelings associated with moral distress may occur in what could be deemed "no win situations," or situations where the individual is associated with a negative decision regardless of their individual involvement. Using this line of reasoning, Campbell and colleagues argue that a revised, broader definition of moral distress should focus on the negative, self-directed emotions that arise in response to being involved in morally undesirable scenarios (Campbell et al. 2018 p. 5).

Concepts Related to Moral Distress

Despite suggestions to expand the scope of moral distress concepts, many people defend keeping Jameton's definition. Unlike Campbell and colleagues, they believe that

expanding the definition of moral distress departs from Jameton's original intentions. Although they acknowledge that there are many other important issues related to moral distress, some scholars argue they introduce new or separate ideas all together. In response to Campbell and colleagues, Andrew McAninch wrote that including cases of moral luck in the proposed broader definition of moral distress is acceptable, but it should be recognized that moral luck causes a unique kind of negative, self-directed emotion and thus a unique kind of moral distress (McAninch 2016, p 30). He proposes that the broader understanding of moral distress brings special considerations and may in fact be more similar to the concept of moral injury. In cases of moral injury, individuals witness distressing situations and experiences symptoms of helplessness, however it is different from moral distress. In moral distress, individuals may witness distressing situations, but then feel forced to either not speak up or act in a way they think it right. While the symptoms of these two concepts may be similar, moral distress requires the individual feeling constrained in how they act during the situation.

Like moral distress, McAnninch states that moral injury began from one definition before slowly evolving to fit a broader definition. He drew his initial reasoning from Jonathan Shay's work on moral injury, who labels the concept as a condition arising when a person in authority betrays what is right in high pressure situations (Shay 2014, p 184). Originally, the concept of moral injury related specifically to military and combat environments; however, the concept now includes a broader range of situations. There are several similarities between the broader definitions of moral distress and moral injury when examining the emotional aftermath of a compromising event. The individual

making the decision, as well as others who are not directly involved, may experience feelings of anxiety, helplessness, and guilt. McAnnich argues that comparing moral distress to known issues like moral injury may deepen an understanding of the moral distress phenomenon as a whole. (McAnninch 2016, p 30). In moral distress, individuals may witness or contribute to these events and feel pressured to either take action or not take action as a result. Like the advancement of patient decision-making models, the concept of moral distress will continue to evolve and adopt a broader sense of meaning. This thesis uses an expanded definition of Jameton's original concept of moral distress, similar to that of moral injury. The individual making the decision, as well as others who are not directly involved, may experience moral distress when constrained from making the decision they believe is morally right.

Abandoning Conversations on Moral Distress Altogether

Although many scholars support expanding the scope of moral distress, they recognize that there may be negative consequences in doing so. They believe that categorizing situations as morally distressing contributes to a feeling of powerlessness among nurses (Johnstone and Hutchinson 2015, p 8). To illustrate this argument, Megan-Jane Johnstone and Alison Hutchinson point to Jameton's original condition which assumes that nurses know the right thing to do, but some form of constraint limits them from taking that action. Internal constraints, such as a lack of moral awareness, knowledge, and skills may vary among individuals, whereas external constraints like staff

shortages, the pressure to contain health care costs, and increasing expectations of what healthcare should offer, have the potential to affect nurses as a larger population (Johnstone and Hutchinson 2015, p 9).

The continued use of moral distress narratives surrounding these external constraints may solidify a view that nurses are powerless victims who cannot change the status quo or health care system at large (Johnstone and Hutchinson 2015, p 9). This sets the dangerous precedent that nothing can be done to alleviate sources of moral distress and may wrongly encourage complacency rather than remediation. As a result, some scholars have suggested dropping Jameton's definition of moral distress and avoiding discussions of a broader definition altogether. They suggest that creating less discussion around moral distress will prevent nurses from feeling disempowered with constraints they cannot control. Although it is possible that discussing moral distress may cause concern among some nurses, refusing to acknowledge the presence of moral distress does nothing to alleviate the problem at its source.

While it is important to recognize the growing concern for over emphasizing the presence of moral distress, some reviews of the literature have shown that it may be less disempowering than it has been portrayed to be. Johnstone and Hutchinson point to research by Goethals et al. and De Casterle et al. which suggests that surveyed population samples are too small and biased to make hasty generalizations representing the entire profession (Johnstone and Hutchinson 2015, p 9). Not all nurses perceive themselves as

powerless in ethically compromising scenarios, and others have suggested shifting focus toward “moral successes” and “moral resilience” rather than the ill effects of distressing situations (Johnstone and Hutchinson 2015, p 10). This supports the movement to broaden or shift the focus of conversations surrounding moral distress. A deeper understanding of moral distress may be achieved by considering the growth of diverse and new perspectives rather than strictly adhering one view alone. This thesis considers expanded perspectives of moral distress which stem from Jameton’s original ideas and extend to populations beyond practicing nurses.

The Impact of Moral Distress

Similar to Jameton’s focus on moral distress within nursing populations, much of the research on the sources and effects of moral distress has focused on individual and group nursing experiences. Both qualitative and quantitative measures such as interviews, surveys, and the creation of a Moral Distress Scale have been used to document and study the causes, prevalence, and symptoms of moral distress (Corley et al. 2001 p 251). The Moral Distress Scale is a unique questionnaire designed to rank feelings of moral distress from a range of 1 (almost none) to 7 (great) (Corley et al. 2001 p 253). The original study involving the Moral Distress Scale asked a sample of 159 nurses to document their feelings of moral distress. The study found that 15% of study participants had left a previous position because of unresolved constraints and moral stressors (Corley et al. 2001 p 254). This suggests that moral distress may be prevalent throughout health care

settings and affect the care that health professionals provide. While it caused some professionals to leave the profession, others may stay in their positions and feel the effects of moral distress in the form of other negative consequences like emotional distancing from their patients. Although Jameton focused on nursing populations, other health care professions were not explicitly excluded from his definition of moral distress. If this is the case, moral distress may extend to physicians, allied health professionals, and their students and trainees.

In addition to the widespread effect of moral distress across multiple health care professions, it is necessary to recognize the severity and long-term consequences of unresolved moral distress. Epstein and Hamric refer to the building detriment of moral distress over time as the crescendo effect (Epstein and Hamric 2009, p 330). They state that the problem begins when a clinical situation unfolds and choices are either consistent with or violate what someone believes is right. Even if the resultant actions have a positive outcome, Epstein and Hamric suggest that a lack of acknowledgement for the individual's moral concern develops into moral residue, which continues to rise with repeated instances over time (Epstein and Hamric 2009, p 332). Situations involving institutional constraints tend to reoccur as similar clinical situations arise, and the crescendo builds as the individual is reminded of unresolved distress from the past. Epstein and Hamric suggest that this may lead to three major consequences which include providers becoming numb to ethically challenging scenarios, providers exercising conscientious objection to avoid ethically challenging scenarios, and providers ultimately facing burnout (Epstein and Hamric 2009, p 330). Burnout is often seen as the most

extreme negative consequence of moral distress; however it is also important to recognize the potential impact on providers who continue practicing but become numb or uncompassionate.

In order to better understand what may be the most severe of these consequences, Angela Karakachian and Alison Colbert examined the relationship between moral distress and provider burnout. Results from seven quantitative articles reported positive correlations between moral distress and burnout, including a review of one large sample where 1,541 nurse participants identified moral distress as the only variable correlating to provider burnout (Karakachian and Colbert 2019, p 137). Qualitative reviews examining the relationship between moral distress and burnout focused on the prevalence of emotional symptoms like sadness, anger, and frustration, which occur as a result of moral distress (Karakachian and Colbert 2019, p 137). These feelings affected the individual's professional behavior and caused them to withdraw from patients and family members.

Moreover, the review found that nurses strongly believed moral distress led to lower standards of care, and it led many to consider leaving their careers. All studies reviewed by Karakachian and Colbert identified a positive correlation between moral distress and burnout; however, some explained that management of moral residue and development of effective interventions may alleviate intentions to leave the profession (Karakachian and Colbert 2019, p 138). Recognizing the detrimental relationship between moral distress and burnout may help health care practices retain providers and

address the lingering effects of moral residue. More importantly, a better understanding of the phenomenon allows for the development of strategies to proactively address moral distress and train providers in the process. It is highly improbable that all constraints or ethical challenges can be removed from health care environments, but anticipating and alleviating situations of moral distress should be made a priority as early as possible. While some instances of moral distress may be due to pressures from practicing as a health care professional, others may be carried over from moral distress occurring early in the education process. These initial instances of moral distress should be targeted as a first step in eliminating contributors to burnout.

Groundwork for Thesis

The background information provided in this chapter serves as a foundational understanding of moral distress and its related concepts. The following chapters focus largely on the sources and effects of moral distress throughout the education and early career of health care professionals. This thesis considers elements of Jameton's original focus on moral distress within nursing populations, as well as additional populations that can be affected by institutional pressures. More specifically, the following chapters consider the effects of moral distress within students throughout medical education. This chapter has established a relationship between the accumulating effects of moral distress and burnout, which is largely focused on the professional level. The next chapter draws

from research in residents and medical school students and argues that issues of moral distress have the potential to arise in any stage of the medical education or career process.

CHAPTER TWO

MORAL DISTRESS IN RESIDENTS AND MEDICAL SCHOOL STUDENTS

The previous chapter described accounts of moral distress that were originally created to describe a phenomenon among nursing professionals. This chapter seeks to expand the account of moral distress to health care professionals in training, and more specifically, residents and medical students. First, the chapter describes instances of moral distress in residency training programs, including sources of distress among various specialties and feelings which may occur broadly throughout this stage of medical education. This is followed by a similar discussion of moral distress in medical school students, including the identification of factors contributing to distress and current efforts to alleviate distress through integrated ethics curricula. Perspectives from this chapter will be used to introduce the concept of moral distress in undergraduate medical education, which has gone largely unrecognized in the literature, in the following chapter.

Moral Distress in Pre-Professional Training

As stated in the previous chapter, moral distress has been described as a form of cognitive dissonance where individuals feel pressured to act against what they believe is morally right. The concept of moral distress originated in the nursing field; however, it is extremely relevant to many other professions in health care. Physicians, technicians, and

administrators in medical environments may feel pressure from various constraints such as financial or institutional policies. Students training to pursue these careers are also vulnerable, like nurses and physicians, and are often overlooked by those concerned with mitigating moral distress. In particular, medical students and residents are frequently exposed to morally challenging scenarios given their position as trainees and proximity to clinical training. For the purpose of this thesis, the term "undergraduate" refers to a student who is considering pursuing medical school while attending an undergraduate college program, "medical student" refers to a student enrolled in a 3 or 4 year medical school program, and "resident" refers to a post medical school graduate in a residency or fellowship program.

Many scholars recognize that the process of developing graduate level students into competent physicians is complex intellectually, sociologically, culturally, and morally; yet the concept of moral distress often remains unrecognized by educators and training institutions (Berger 2013, p 395). This may be because Jameton's study of moral distress focused on nursing populations rather than other types of professionals, and by extension, other types of students. Jameton did not exclude students from his definition of moral distress, but he also did not include or consider the effect of moral distress on these populations, most likely because he was studying and working with nurses at the time. While medical students and residents do not possess the same responsibility as staff physicians, they still often witness distressing situations and may be compelled to act in certain ways to respond. Furthermore, they may be affected by these incidents long after the situation is resolved. Moral residue can accumulate over time, and therefore incidents

of distress experienced during a student's training have the potential to contribute to burnout later in their career.

One physician, Jeffrey Berger, noted that the long-term effects of moral distress may overpower medical schools' efforts to strengthen moral reasoning, levels of empathy toward patients, and other skills and desirable behaviors (Berger 2013, p 395). In order to maximize the effectiveness of residency programs' and medical schools' outreach to students and residents, signs of moral distress should be identified and mitigated in the training process as early as possible. Rather than wait for signs of what is now recognized as physician burnout to appear in their professional career, action should be taken to resolve contributing factors of burnout, like moral distress, in the education process. The next sections of this chapter discuss the sources of moral distress and efforts to mitigate its effects in residency and medical school.

Moral Distress in Residency

The literature has recognized the impact of moral distress in the residency stage of medical education more than it has in medical school. This is most likely due to residents' extended exposure in clinical arenas which directly contribute to moral distress, along with residents' increased authority and lack of experience. Once in the residency stage of medical education, residents take on additional responsibilities and levels of independence that more closely mirror those of physicians. Medical residents assume some authority and begin to independently engage with patients, yet they

continue to report to an attending supervisor. Although the attending is ultimately responsible for the patient's care, residents are responsible for many patient interactions and less complex assignments. In some settings, residents may see patients more frequently than their supervisors do and are often first on call to care for patients in emergencies (Knifed et al. 2010, p 571). This responsibility presents unique challenges to residents depending on their clinical surroundings, team environment, medical knowledge, and personal values.

In surgical residencies, for example, trainees often gain hands-on experience by performing portions of surgical cases under the supervision of their attending. While this provides beneficial learning opportunities for the residents, it also places them in situations of potential moral distress (Knifed et al. 2010, p 571). A study by Eva Knifed and colleagues interviewed surgical residents regarding distress which arose as a result of being "on-the-job trainees." They found several factors that contributed to moral distress, including a lack of awareness from the patient population regarding the exact role of residents in care delivery, the need for disclosure of intraoperative errors, disagreement between the resident and staff surgeon, and certain teaching circumstances which placed the resident outside of his or her comfort zone (Knifed et al. 2010, p 571). These factors contributed to moral distress by placing students in morally sensitive or controversial situations and pressuring them to respond. In many cases, the student may feel they have no choice in which actions they take, even if they contradict what they believe is right.

Several residents relayed that at some point in their training they had been placed in situations where they felt they were given more responsibility and freedom than they were comfortable handling based on their level of experience (Knifed et al. 2010, p 574). As trainees who often compete for opportunities to join operations and receive letters of recommendation from their supervisors, it is not uncommon for residents to feel hesitant speaking up in situations that contradict what they believe is the morally appropriate course of action. This is particularly common when the supervisor making controversial decisions is directly in charge of mentoring or assessing the resident. As reported by Landgren and colleagues, some of the common barriers for residents to speak up include individual skills, safety of speaking up, the effectiveness of voicing a concern, and contextual factors of the workplace (Landgren et al, 2016 p 742). Many residents will suppress feelings of working beyond their comfort level so that they appear competent in front of supervisors and classmates, although it may be a step backwards in confronting moral distress. While the competitive nature of residency training is a commonly known aspect of medical education, little research has been done on how to mitigate the sources or aftermath of moral distress in this stage of their career.

One study by Julie Aultman and Rachel Wurzel recognized a gap in literature that acknowledges moral distress among medical residents. They aimed to identify factors that contribute to clinical training dilemmas residents may experience. They specifically examined how residents characterize difficult clinical encounters, their emotional responses to encounters, and how judgments about their patients were formulated, confirmed, or modified throughout the experience (Aultman and Wurzel 2014, p 457).

Residents reported struggling to make clinical and moral decisions in settings when they could not relate to their patients, such as incidents where patients were addicted to medication, and felt hesitant making critical judgments. One resident in the study refused to prescribe pain medication to a patient who they considered not to be in need, and as a result, the patient told them they were a bad doctor (Aultman and Wurzel 2014, p 458). Difficult encounters like these, as well as misuse and lack of resources, incongruent goals between patients and providers, injustice in the healthcare system, and the resident's perceived inability to resolve these issues were found to cause moral distress (Aultman and Wurzel 2014, p 459). Additional factors which contribute to moral distress may differ among residency placement and specialty, based on the needs of each service.

Aultman and Wurzel's participant group focused on obstetrics and gynecology residents who emphasized the role of emotions in their encounters. Because they have not had as much experience as attending physicians have had, residents may be more deeply affected by challenging encounters. A resident's first "wrong call" or first morally distressing episode may resonate with more intensity than the same experience would to an attending who has experienced and resolved similar problems in the past. As a safeguard to avoid moral and emotional conflict, some residents described attempting to "snap on and off" their emotional responses at the expense of the therapeutic relationship (Aultman and Wurzel 2014, p 460). While this may protect the resident from internalizing negative interactions and emotions, it may also prevent them from connecting and compassionately caring for their patients.

Several residents indicated a need to alleviate moral distress and the buildup of emotions that accompanies caring for patients. They reported that discussing their experiences during the study was helpful because it gave them the chance to reflect and hear about similar encounters had by their peers. In addition to discussion, strategies like using humor, crying, talking to mentors and colleagues, and establishing healthy boundaries between themselves and patients were reported to help residents decompress and express their emotions about the encounters. Results from the study suggest that there is a need to provide opportunities for residents to discuss accumulating moral distress as a step in alleviating negative feelings that may affect patient care (Aultman and Wurzel 2014, p 461).

Other residency environments that commonly instigate situations of moral distress involve pediatric and end of life care. One study by Priscilla Chiu and colleagues specifically focused on the moral and ethical conflicts faced by pediatric surgery residents involved in caring for critically ill infants and children. The study collected information from 25 out of the 38 accredited pediatric surgery training programs in the United States and Canada and confirmed that the most frequent source of moral distress among pediatric surgery residents revolved around end-of-life issues (Chiu et al. 2008, p 991). The report showed no specific mechanisms among pediatric surgery programs to address moral distress encountered by residents, which may be due to the compressed two-year duration of subspecialty training time (Chiu et al. 2008, p 992). As a result of the short time frame allotted for fellows to gain experience in the subspecialty, there is less opportunity to express and resolve ethical conflicts. Results from the survey showed

a lack of opportunity and forum to discuss moral distress. Furthermore, residents felt they were unable to withdraw from patient care as an attending surgeon could if experiencing the same feelings of moral distress (Chiu et al. 2008, p 992). Without the opportunity to resolve and discuss morally distressing events, the remaining moral residue may compound and contribute to burnout before the resident has even begun working as an independent physician.

Another study conducted in the pediatric realm was completed by Hilliard and colleagues in an attempt to identify causes of moral distress specifically relevant to pediatric residents. After completing a survey among 21 residents, the study concluded that the residents cared about children and wanted to do the right thing to best serve their patients, but felt distress when they did not know what was best, or felt conflict between decisions made by staff members higher in the institutional hierarchy and their own perception of what was best (Hilliard et al. 2007, p 31). One resident was quoted saying: "When I look back, I was writing these orders and signing my name to these orders for something that I totally didn't agree with, and not like anybody was forcing my hand to do it, but when you're on a team and you're lower on a team and it's the plan and your staff is mandating it, you feel like, okay, this is what the team is doing so I guess this is what I order" (Hilliard et al. 2007, p 32). Residents in these situations are not typically forced to perform specific actions but feel pressured by their own imposed fears and the culture and policies of their institution.

Although the study initially aimed to find distinct challenges faced by residents serving pediatric populations, they shared many sources of distress faced by residents in other specialties. The study reported that the majority of moral distress felt by residents stemmed from their position as trainees in the program, their inexperience, and their position in the hierarchy of care (Hilliard et al. 2007, p 31). The residents stated specific concerns such as feeling that they could not provide the best treatment to patients due to their inexperience, not knowing when to report unprofessional activities from peers or supervisors, and unreasonable expectations set by supervisors and patients (Hilliard et al. 2007 p 31). These feelings are likely to occur in residents of any specialty program, although unique stressors from specific programs may also add to feelings of moral distress.

While a majority of ethical disagreements reported in the survey were the result of tension between residents and staff, the study also commented on a lack of structured support to deal with situations when residents felt their individual morals were compromised. Residents felt they were often placed in a position of conflict due to their inexperience and inherent desire to learn and perform procedures while still providing the care that is best for their patients (Hilliard et al. 2007, p 34). One resident was quoted stating: "Learning how to do procedural skill, it's something that we all want to do, we all want to get better at, and we really can only practice, in any way that makes sense, on patients. And the ethical dilemma part of it is that while it's benefiting us in terms of our training and our learning, and hopefully will benefit other kids, one may maybe can cause pain, it means that it could get three attempts at an LP if you couldn't get it the first time

and stuff, it may be dangerous for the kid" (Hilliard et al. 2007, p 31). The study was consistent with findings from other residency programs examining moral distress, suggesting that while specific challenges may rise from different residency disciplines, residents are commonly vulnerable to moral distress based on their position as inexperienced junior staff members.

Unlike some medical schools that have recently adopted more ethics and medical humanities curricula, covered later in this chapter, many residency programs have little time designated specifically for ethics or moral resilience training. Throughout residency, trainees depart from structured learning in classrooms and take on more extensive and direct patient care roles. In cases where ethics training or dialogue regarding moral distress is not prioritized, residents may develop avoidance and withdrawal strategies, or develop symptoms of burnout, which could impact their ability to care for patients, their future career, and mental well-being. As more research on moral distress is being conducted, several scholars have called for more extensive implementation of post-medical school ethics resources to prepare residents for distressing situations, while others claim this will still not be enough. As a response to one paper on moral injury in emergency medicine residents, Esther Murray and Shweta Gidwani stated that no amount of standard debriefing or wellness intervention can take away the effects of distressing situations. When the effect on staff well-being is caused by a violation of the individual's moral code, the treatment needs to focus on addressing this at the source versus simply building resilience (Murray and Gidwani 2018, p 322).

Moral Distress in Medical Schools

In the literature, moral distress is not explored as deeply in medical student populations as it is in residents; however, there are several reasons why the medical student population should be given more attention. The sources of moral distress among medical school students are very similar to those of residents in the sense that the trainees are inexperienced learners who feel pressure from their low position in the patient care hierarchy. Although they are not exposed to patient care with the same level of responsibility, they are valuable members of the care team, future physicians, and moral agents. Medical school students have the potential to feel the same extent of moral distress as residents or even independently working physicians, given their similar desires to provide patient care in an institutional setting. The feelings expressed by residents earlier in this chapter regarding their inexperience preventing the best possible care from being delivered to patients present an inherent conflict between wanting to gain experience and respecting the limits of their competency and comfort zone. For medical students, who may arguably feel more pressure to perform, impress faculty members, and improve their odds to secure a residency of their choice, the competitive nature of these environments may easily create moral distress. Institutional pressures for students to rank highly among classmates, to add to extensive resumes and application skill sets, and to contribute to their careers may work against moral judgments and cause students to suppress concerns about their ability to provide adequate care.

One study by Lisa Hicks and colleagues noted that there is frequently conflict between the objectives of medical school education and patient care (Hicks et al. 2001, p 709). In teaching environments where medical students are observing or participating in patient care, mentors often seek opportunities to expose students to different procedures and clinical experiences. While this is typically done with the patient's authorization, the study documented situations in which students felt their educational experience went against the patient's well-being. One student is quoted stating: "Once, when I was on call, there was a patient who was palliative, in a vegetative state. The resident [house officer] I was working with decided that this would be a good opportunity for me to learn how to do a femoral stab, even though it was not necessarily medically required. The patient was not expected to [recover] from his current condition, and wasn't in a position to argue, and I think there was a very thinly veiled excuse that we could do it. It was more or less for the exercise in education on a non-consenting patient. It struck me as so at the time too, but we don't really get a lot of opportunity to practice those types of procedures" (Hicks et al. 2001, p 709). Situations where students feel their educational opportunities are at odds with patient safety and care have the potential to cause severe moral distress. One of the most well known examples of this has been the case of medical students who were asked to perform pelvic examinations on anesthetized women (Schniederjan and Donovan, 2005, p 386). Students want to gain as much experience as possible to advance their knowledge and excel among their peers, but recognize that their decision to follow unethical instruction may be detrimental to the patient. In addition to the anxiousness of being pressured into these situations, students may feel distressed because they are providing substandard care and experience negative role modeling from supervisors.

In order to document the prevalence of moral distress in medical students, Catherine Wiggleton and colleagues surveyed 106 fourth-year medical students at Vanderbilt University. Results from the study provided qualitative evidence that medical students experience moral distress on a regular basis, and that higher frequency and higher distress scenarios often included instances where students perceived a direct negative effect on patient care or observed behaviors which were directly disrespectful to others (Wiggleton et al. 2010, p 115). Other common situations that students reported to cause distress included caring for patients who had barriers to accessing proper treatment, witnessing inappropriate behavior from supervisors, continuing to provide therapy at a family's request despite only prolonging patient suffering, performing procedures they did not feel qualified to perform out of fear that they would otherwise be perceived as incompetent, and being ignored or not receiving adequate information from supervisors (Wiggleton et al. 2010, p 114). Many of these feelings are similar to those reported by residents who have been recognized as having moral distress and should be taken just as seriously in medical students due to their decreased authority and increased vulnerability. Mitigating moral distress in medical students who are building habits that will affect the rest of their careers also protects them from burnout in the training process.

Possible reasons why moral distress has not been taken as seriously in medical student populations include their lesser amount of independent responsibilities in patient care and the under reporting of incidents. As mentioned previously, students who are competing for positions in a class ranking or selective rotation block may feel intimidated to report instances that make themselves or faculty members appear in a negative light.

This may be out of fear that they will create a poor reputation for themselves, fall behind, or be disliked by their supervisors. In their study, Wiggleton and colleagues also documented reasons why medical students may not report or take action in the face of a distressing situation. They found that the most frequent reasons for not reporting were because students recognized they were a subordinate member on the team, they felt their concerns were due to them lacking knowledge, they did not want to be disrespectful or receive a negative evaluation, they wanted to preserve their relationship with their supervisor, or they wanted to be perceived as a team player (Wiggleton et al. 2010, p 115). Each of these factors has the potential to cause moral distress by pressuring students to go along with actions that they believe are wrong rather than speaking up.

While many reasons for not reporting incidents may also be relevant to residents, the increased supervision needed by medical students and dependence on a positive relationship between student and supervisor places medical students in a more vulnerable position. Medical students are lower on the care team hierarchy than residents and have less confidence and power to make decisions that disagree with others. Because they are able to experience the same moral opinions and judgments as residents but have less of an ability to act against them, it could be argued that medical students are more vulnerable to moral distress. According to Jameton's definition of moral distress, the medical student closely fits the description of an individual who is capable of knowing the morally right action, with even less ability to follow it through than other individuals in higher positions.

For the sake of this review, the sources of moral distress explored by the articles above are summarized in Table I. The table includes the reported source of moral distress and an example of the source as reported by residents and medical students. While these may not serve as the only sources of moral distress, this table summarizes some of the common themes which appeared across studies.

Table I: A Summary of Sources of Moral Distress in Residents and Medical Students

Source	Example	Citation
Lack of Patient Awareness Regarding the Trainee's Role	Patients not understanding the exact role of trainees in the care setting, mistaking them for physicians or other members of the care team.	Knifed et al. 2010, p 571
Trainee's Inability to Relate to Patients	Making decisions in difficult clinical scenarios where the trainees are unable to relate to the patient or rely on experience.	Aultman and Wurzel 2014, p 457
Lack of Experience	Feeling like they could not effectively answer patient questions, explain decisions, or provide the best care possible.	Hilliard et al. 2007, p 31
Learning New Procedures	Feeling uneasy performing newly learned skills on patients and worrying that patients may suffer.	Hilliard et al. 2007, p 31
Unreasonable Expectations and Limited Supervision	Being expected to do things beyond their experience level without oversight or supervision. Trainees reported feeling like they could not refuse these tasks at the risk of appearing incompetent or falling behind.	Knifed et al. 2010, p 574 Hilliard et al. 2007, p 32 Wiggleton et al. 2010, p 114
Witnessing Unprofessional Behavior	Observing peers or supervisors behaving inappropriately or breaking hospital policy and feeling like they cannot speak up.	Hilliard et al. 2007, p 32
Participating in Actions that Negatively Affect Patient Care	Completing actions that the trainee perceived directly harmed patients, such as continuing to provide therapy at a family's request despite prolonging patient suffering.	Wiggleton et al. 2010, p 115

Ethics and Professionalism in Current Medical School Curricula

In an attempt to better develop professionalism awareness, refine moral reasoning skills, and encourage students to feel confident in voicing their values, many medical schools have implemented bioethics and humanities-based material into their curricula. These courses often serve as the only graduate-level opportunities that specifically prepare and educate students about ethical conflict and morally distressing situations prior to becoming a resident. In the past these classes were in few, if any, standardized course offerings. When taught, ethics exposure was often only available as a small part of a larger required class or through optional interest groups (DuBois and Burkemper 2002, p 433). More recently however, ethics content has become a mandatory course or part of other courses in medical schools and sometimes even as pre-requisites for admission. Not all medical schools have integrated extensive ethics offerings into their standardized curricula, and the ones that have vary in the objectives and content of the classes. Additionally, the backgrounds, skill sets, and requirements for professors teaching these classes varies greatly. This section describes some of the challenges to current medical school ethics curricula. A future chapter addresses these challenges and recommends that medical school ethics education incorporate moral distress recognition and resilience content as part of their programs. Similar to how professionalism has become a content focus in these classes, a focus on moral distress will provide medical students the skills to better perform and thrive in clinical environments.

A variety of arguments have been made to justify the integration of ethics education in medical school curricula, and there has been increasing acceptance of the importance of integrating ethics education into medical school curricula. In the late 1980's, Edmund Pellegrino described medicine as an ethical profession due to the vulnerable nature of patients being treated by physicians (Pellegrino 2002, p 378). Around the same time, medical education programs began recognizing ethics training as an important pre-requisite for new physicians and the Association of Medical Colleges (AAMC) launched an updated curriculum directory where all United States medical colleges would require ethics education prior to graduation (1998). The extent that schools altered their curricula to fulfill this requirement varied, with most schools incorporating a small ethics component in larger courses and very few offering stand-alone ethics course offerings (AAMC 1998).

In the early 2000's, a study by James DuBois and Jill Burkemper attempted to identify how different schools fulfilled this requirement and examined objectives, teaching methods, course content, and assessment methods in medical schools throughout the United States (DuBois and Burkemper 2002, p 433). After examining several syllabi, the results of the study found that there was no common core curriculum among U.S. medical schools. Only eight of over one thousand ethics readings sampled in the study were used by more than ten schools, demonstrating the variance and lack of overlap between programs (DuBois and Burkemper 2002, p 433). This suggests that although there may be a common goal to educate future physicians in the practice of ethics, the methods, level of exposure, and strategies taught to students differ - with some being

better than others. They analyzed the content of the syllabi from each medical school; however, moral distress was not mentioned as a category studied. It can be assumed that any ethical training is at least somewhat beneficial for preparing students to navigate morally challenging situations, but the variance and lack of specific recognition for the phenomenon is concerning.

More recently, a study by Alberto Giubilini and colleagues reviewed the current scope, methods, and content of ethics education in medical schools in Western English speaking countries (Giubilini et al. 2016, p 129). They found that curricular content still varies greatly; however, ethics programs across all medical schools face three main challenges. The first challenge involves what is known as the 'hidden" or "silent curriculum," where senioer clinicians influence student attitudes more than the official curriculum of their classes (Giubilini et al. 2016, p 133). While the messages conveyed through the hidden curriculum may take shape in many forms, actions that cut corners or demonstrate poor ethical sensitivity present a major challenge to the teachings of most medical ethics programs. The second challenge involves incorporating the theoretical frameworks the students learn into their practice as physicians, and the third involves influencing the character of medical students who already have formed opinions and beliefs (Giubilini et al. 2016, p 134). These challenges, along with inconsistency in medical school ethics course content, teaching methods, and faculty training across the country, have contributed to students feeling ill-prepared in resolving morally distressing scenarios and have created skepticism around the effectiveness of the programs.

Although teaching ethics and providing students with the skills to combat moral distress may seem like different things, there are several benefits to teaching them together. Ethics education programs may serve as a foundation for students to identify and better articulate and act on their personal values. Strengthening students' familiarity with and reasoning of their values may make them more inclined to speak out against institutional pressures. Additionally, just as topics like professionalism have become large components of ethics curricula, these classes could serve as an ideal forum for the discussion of moral distress. Unfortunately, many medical school ethics courses are taught only in the first two years or sparingly throughout the four-year curriculum. It is difficult to insert ethics education into the curriculum during students' rotation periods. Schools that do provide ethics education during rotations must embed faculty in clinical services to make time for the courses, which requires a lot of faculty time and investment. Ideally programs would prioritize recognizing student's direct experiences with moral distress in their rotations, but the necessary resources are hard to come by for most medical schools. Recognition of the phenomenon in a designated curriculum space would allow students to better understand how they may be affected by moral distress and what tools they have to cope with the symptoms.

As a whole, medical school ethics curricula and training programs need to be unified and focused on creating translatable skills which can combat ethically challenging and morally distressing situations in the workplace. It is unclear exactly what this should look like and how much curriculum space should be dedicated specifically to combating moral distress, but creating some type of forum for moral distress discussion is important.

Efforts should be made to revise the competitive culture of medical schools and residency programs to promote students voicing concerns and values, not only to benefit the student, but also patient safety. The recent decision to transform the Step 1 examination taken during the second year of medical school to a pass-fail scoring system may alleviate some competitiveness, in addition to some medical schools that have made their grading systems pass fail as a whole. On the other hand, this may put more pressure on students to perform well on the Step 2 exam, which will remain scored. The current state of medical school and residency programs is well intentioned and on course to be more beneficial as the recognition for ethics content continues to grow, but they are not currently sufficient in preparing students to deal with moral distress. Competitive medical school and residency environments and inadequate ethics education serve as two separate challenges contributing to medical student and resident moral distress. By addressing the phenomenon in a designated curriculum space and addressing the competitive culture of these environments, moral distress may be better recognized and prevented in the future. As a result, symptoms from unresolved moral distress that contribute to physician burnout may be avoided.

CHAPTER THREE

MORAL DISTRESS IN UNDERGRADUATE PRE-NURSING AND PRE-MEDICAL STUDENTS

The last two chapters argued that moral distress extends beyond its roots in the nursing profession and even beyond other working health professionals, affecting students in residency and medical school education. One of the major contributors to moral distress reported by medical students was their low position in the hierarchy of care staff. In order to avoid appearing incompetent and maintain positive relationships with supervisors, medical students often feel the need to suppress their discomfort with ethically questionable situations. The cumulative effect of these events, along with a perception of not being able to prevent them in the future, has the potential to contribute to moral distress and eventually burnout.

This chapter argues that undergraduate pre-medical students can also experience the sources and effects of moral distress. Although Jameton's was focused on nursing populations and did not specifically consider the effect of moral distress on undergraduate students, they are often present in hospital training environments. This chapter argues that because undergraduates possess an even lower status in training hierarchy than residents and medical students, they are just as, and potentially more, vulnerable to systematic pressures and situations of moral distress.

Undergraduate Pre-Nursing Students

Because very little research has been completed on the prevalence or effects of moral distress in undergraduate pre-medical students, the first section of this chapter examines moral distress among undergraduate pre-nursing students. The first chapter of this thesis proposed that moral distress was a phenomenon affecting both nurses and physicians, and so it seems appropriate to compare the undergraduate experiences of pre-nursing and pre-medical students. Pre-nursing and pre-medical undergraduate experiences differ in the content, duration, and objectives of their education. Pre-nursing students pursuing a nursing undergraduate degree may attend either a four-year or accelerated Bachelor of Nursing (BSN) program. After passing the National Council Licensure Examination (NCLEX-RN exam), graduates may begin practicing as a BSN nurse. They may pursue advanced degree options if they desire.

In comparison, undergraduate pre-medical students are required to attend medical school after earning their bachelor's degree or participating in a combined undergraduate-medical school program in the United States, or an extended medicine program after high school in other places. Following medical school students typically receive a residency placement prior to practicing as a practitioner. Some residents moonlight and work independently as physicians in smaller clinics, although this is usually less common. Undergraduate nursing programs include a significant amount of hands on clinical training whereas undergraduate pre-medical programs do not. Undergraduate pre-medical students should not participate in hands on training unless they obtain it as part of some

other function such as being a CNA or EMT. Despite not having formal clinical training as part of their curriculum, undergraduate pre-medical students may still experience clinical settings by shadowing or volunteering. Undergraduate pre-nursing students are actively training to become clinicians, whereas pre-medical students are hoping to be selected to eventually train as clinicians in an additional program. With these differences in mind, this section examines the undergraduate experiences of pre-nursing students with respect to moral distress.

Some scholars have speculated that moral distress in practicing nurses may have resulted, at least partially, from training received throughout the education process (Cantrell et al. 2005, p 187). As undergraduate students, nurses are exposed to ethical dilemmas and difficult situations which prepare them for future instances when they are working in the field. Ideally, they are taught strategies to navigate and resolve these situations through theory learned inside the classroom and mentoring received in clinic. A study by Cantrell and colleagues commented that throughout this process, students may perceive differences between principles they are taught and what they observe when they shadow during clinical training (Cantrell et al. 2005, p 187). Students who perceive inconsistency between classroom and clinical settings may feel insecure in their training and ethical problem-solving foundations (Cantrell et al. 2005, p 187). Once the students graduate and become independently working nurses, they may not know which values to follow, or feel pressured by the culture of their training environment to abandon what they learned throughout the education process. Although student nursing populations fall beyond the original focus of Jameton's work on moral distress in nursing populations,

conflict between what is taught in education systems and what is observed in training contributes to anxiousness and other feelings of moral distress.

Despite these similarities, there are scholars who question whether it is possible for undergraduate populations to experience moral distress. In order to better investigate the concept, Loredana Sasso and colleagues reviewed literature on undergraduate student nurses' experiences with moral distress. They analyzed a total of 157 articles, and after removing duplicates and articles that did not meet inclusion criteria, they found four studies to compare and include in the review (Sasso et al. 2016, p 526). The low number of comparable studies demonstrates the significant gap in research which has focused on moral distress in student populations. The first major topic area covered by the four studies introduced potential sources of moral distress in pre-nursing student populations. These sources were similar to sources of moral distress faced by medical students and residents mentioned in the last chapter. They included broad topics like inequalities and health care disparities, ethnic origin, religious faith, and lack of awareness and sensitivity to the rights of patients (Sasso et al. 2016, p 528). These sources of potential conflict appear to be shared across disciplines that engage in health care environments and are especially prevalent in situations that involve end of life care, abortion, physician aid in dying, and using physical or pharmaceutical restraints on patients (Sasso et al. 2016 p 528). Pre-nursing students who may be facing difficult topics like these for the first time may feel especially vulnerable to institutional pressures, since they have not had the opportunity to voice their opinions or values in similar situations before.

Sasso and colleagues found a link between moral distress and nursing education environments. They suggested that characteristics unique to educational settings like incivility among students, cheating and copying examination and homework material, bullying, and the regulations and procedures surrounding professional education, standards, and culture could also serve as stressors among student populations (Sasso et al. 2016, p 529). These factors present unique challenges which fall beyond Jameton's original description of moral distress, because they take place outside of the clinical setting. Because they are not yet nurses, students may feel ostracized from the professionals they shadow, and their challenges with moral distress may go unnoticed. When entering a clinical setting, students reported feeling impotent around physicians, a profound feeling of loneliness, and feeling they were unable to act as a trainee in the professional environment (Sasso et al. 2016, p 529). Without a support system that recognizes the conflicting expectations of their multiple environments, students are more vulnerable to emotional and moral distress.

A study examining undergraduate nursing programs from three Brazilian Universities found that their students often faced morally distressing challenges similar to those faced by health care professionals. Distressing events in the pre-nursing students' daily educational environment were often less intense, yet more frequent than events which occurred during their clinical exposures. Similar to other junior members in health care staffing, the student's hierarchical position when shadowing professionals and the concern for teacher evaluations generated feelings of helplessness and vulnerability (Bordignon et al. 2019, p 2333). They found that improper institutional conditions in

academic settings, teachers lacking competence, content mastery, and mismatch between theory and practice caused students to struggle prior to entering clinical practice (Bordignon et al. 2019, p 2333). If unresolved, students may compromise their academic performance, have difficulty interacting with their teachers, or remove themselves from their program due to a perceived helplessness in the system (Bordignon et al. 2019, p 2335). In the study, students who failed one or more times also reported high levels of moral distress which they felt compromised their ability to learn (Bordignon et al. 2019, p 2334). The study concluded that repeated exposure to negatively constraining institutional policies and hierarchical relationships could directly influence students and their moral sensitivity (Bordignon et al. 2019, p 2336). This resulted in students disconnecting from patients and showing signs of premature burnout. As a result, students felt the need to guard their opinions and view their position on care teams as powerless, which was further solidified by not acknowledging their moral values.

One source of moral distress which is particularly prominent in undergraduate populations comes from the high importance placed on student-teacher relationships. Although other trainees also depend on their professors or mentors, undergraduates have significantly less independence and experience, and they require more extensive supervision and guidance. A study by Renno and colleagues examined how different aspects of undergraduate pre-nursing student-teacher relationships caused moral distress, deprived students of their learning and working potential, and caused stress-induced illnesses and health problems (Renno et al. 2018, p 308). They suggested that moral distress may be passed on by teachers who lack ethical attitudes and have unresolved

moral distress themselves. The demands from education institutions for academic productivity and the overlapping of professional and personal values may cause teachers to not take care of themselves or their students (Renno et al. 2008, p 308). When nursing professors are placed under institutional pressures that take precedent over their time and moral decisions, they may set poor examples for their students or fail to teach them how to voice their opinions in difficult settings. Furthermore, if students perceive that their teachers are forced to consistently break certain unwritten moral standards, they may be trained to repeat their teacher's actions and continue a cycle of unresolved distress.

The study by Renno and colleagues also commented on the lack of awareness and understanding of moral distress in undergraduate institutions. While many students reported symptoms and feelings consistent with moral distress, they perceived that some students misunderstood what moral distress actually is (Renno et al. 2018, p 308). Many students reported feeling moral distress and pressure to cheat coupled with work overload and pressure from their mentors, which may serve as contributing factors to their distress, but do not fall under Jameton's definition of the concept. Although training pressures imposed on students are sometimes beyond their control, they may merely exacerbate the symptoms of moral distress rather than being a moral problem themselves. Nonetheless, these factors may cause students to feel like they are unable to perform or care for patients to the best of their abilities.

Because a majority of moral distress research has focused on practicing nurses and not student populations, difficulty differentiating between moral distress and feelings of anxiousness or burnout in other settings may reinforce the myth that undergraduates do not experience moral distress during their education process (Renno et al. 2018, p 309). Renno and colleagues do not deny the need to differentiate stressful situations from components that could actually characterize moral distress, but they defend that because undergraduates can make ethical judgments and be affected by certain restraints, they may be affected by the phenomenon (Renno et al. 2018, p 311). It seems clear that pre-nursing students experience conflict between principles taught in the classroom setting and what they experience while shadowing in clinical environments, which arguably contributes to symptoms similar to moral distress in professional populations.

Undergraduate Pre-Medical Students

Although very little research has been done on moral distress in undergraduate pre-nursing student populations, they are more closely tied to Jameton's original focus on nurses' experiences of moral distress than undergraduate pre-medical students. Undergraduate pre-nursing students train and experience patient interactions more similar to those of professional nurses who they work with during the structured training process. Moral distress has been given less consideration in undergraduate pre-medical student populations, most likely because they are further removed from clinical responsibilities. At the undergraduate level, most pre-medical students must seek out shadowing

experiences and clinical volunteering opportunities independently outside of the classroom. Beyond these experiences, pre-medical undergraduates in the United States do not receive any standardized clinical training. Undergraduate pre-nursing students are actively learning to perform skills and work as clinicians at the conclusion of their programs, whereas pre-medical undergraduates maintain a presence in clinical settings solely through observation. Throughout this process, experiences among students vary and they may be exposed to different types of ethical issues. While pre-medical undergraduates are not actively making decisions on these issues, they may feel complicit in decisions that are made, even if they do not agree with them, and thus experience moral distress.

So far, very few researchers have used the term moral distress when studying undergraduate pre-medical student populations. They have explored topics similar to the phenomenon, however, and have focused on questions like whether distressing events occurring in undergraduate pre-medical training affect students professionally. An article by Jochanan Benbassat explored undergraduate pre-medical students' emotional distress, moral reasoning, empathy, and tolerance towards uncertainty (Benbassat 2014, p 598). Although they do not use the term moral distress itself, the study investigated how consequences similar to those which occur from morally distressing situations may affect students later in their careers. Benbassat suggested that students' wellbeing during their undergraduate years was closely tied to performance later in their careers (Benbasset 2014, p 604). Interventions like student counseling, wellness and psychoeducational programs, stress management, participant-driven discussion groups, and pass-fail grading

systems increased the students' wellbeing and reduced self-reported symptoms related to burnout, like depression and anxiety (Benbasset 2014, p 604). Because these symptoms can accumulate over time, as undergraduate pre-medical students experience morally distressing situations, their future professional lives may be impacted. Students may form habits of guarding their opinions from teammates, providing less compassionate care to patients, and avoiding ethically changing cases which could extend into their practice as working physicians.

Another study by Melina Sevlever and Kenneth Rice examined some of the personal and institutional pressures that provoke moral distress and cause burnout related symptoms in undergraduate student populations. They compared self-reported perfectionism, depression, self-criticism, and academic performance among pre-medical and non-pre-medical undergraduate participants (Sevlever and Rice 2010, p 97). Although relatively little research exists on pre-medical students, some scholars have suggested that personality traits like perfectionism in pre-medical populations may be responsible for neurotic behavior and burnout (Sevlever and Rice 2010, p 97). These traits may be triggered by the highly competitive classroom environments and application requirements that pre-medical students are subjected to prior to even beginning their medical school education. This suggests that internal pressures such as personality traits and personal concerns for self-preservation, as well as external pressures, may contribute to moral distress.

Some scholars have suggested that because of these pressures, as well as the additional requirements outside of mandatory coursework for their undergraduate majors, pre-medical students are often under considerably more stress than their peers (Sevlever and Rice 2010, p 98). Because pre-medical students are under such immense pressure to avoid negative stressors like poor grades, they may feel they must compromise their moral values as a form of academic security. This may be done by cheating or using application writing services which are becoming more common both in academic settings and for medical school applications that require multiple long essays. The pressure to stay ahead among class rankings and medical school application pools could persuade students that they must do whatever it takes to maintain prestigious grades and extracurriculars. Students who otherwise have strong values may also feel distressed when classmates succeed by cheating. This distress has the potential to rise to moral distress and reinforce that students must abandon their values and academic integrity to stay competitive.

In addition to academic pressures, undergraduate pre-medical students face unique stressors in the clinical context. These pressures may contribute to situations of moral distress where students feel forced to make certain decisions and develop symptoms of burnout such as anxiety and self-doubt. A study by Christina Radcliffe and Helen Lester asked medical students in the United Kingdom to reflect on causes of stress during their undergraduate education, and many of which involved the unique affiliation students have with care teams. Although undergraduate training is different in the United Kingdom than the United States, student experiences in clinical environments have some

similarities. Specifically, students reported that the pressure to develop a professional persona as an undergraduate was a great contributor to their stress, especially when they were nervous or felt out of place in the clinical environment (Radcliffe and Lester 2003, p 34). Many students described feeling useless because they were not in the position to or lacked the knowledge or skills to take an active role in patient care (Radcliffe and Lester 2003, p 36). One student was quoted stating: "It's stressful because you're not doing anything … when you go into hospital you're not performing a function, you're just sort of standing around and getting in the way …" (Radcliffe and Lester 2003, p 36). Feeling useless may make students want to help in some way despite being unequipped. If they are invited or asked to participate in patient care, they may alleviate their feelings of uselessness but endanger others due to their inexperience and lack of training.

If students know that they should not assist in care but feel like they are pressured to act, they may experience moral distress. Situations where students do not feel pressured or simply act because they want to, may not describe moral distress. Students may feel guilt later after acting, but not because of the institutional constraints that Jameton described as contributing to moral distress. While these stressors may not always fall under the category of moral distress, it is important to recognize that they represent pressures affecting pre-medical students. Extensive and highly competitive medical school application requirements cause undergraduate pre-medical students to feel the need to "do it all," while they are placed in clinical environments where they feel functionless. Because they are still part of the clinical environment, they may experience difficult ethical problems, but feel voiceless or complicit in the situation. If they voice

their concerns, their opinions may be disregarded by those higher on the care team. As a result, they may feel discouraged to speak up and experience moral distress. More research needs to be completed on moral distress in pre-medical undergraduate students so that specific causes unique to the population can be identified and addressed.

For the sake of this review, the sources of moral distress explored by the articles above are summarized in Table II. The table includes the reported source of moral distress and an example of the source as reported by undergraduate nursing and pre-medical students. While these may not serve as the only sources of moral distress, this table summarizes some of the common themes which appeared across studies.

Table II: A Summary of Sources of Moral Distress in Undergraduate Pre-Nursing and Pre-Medical Students

Source	Example	Citation
Inconsistency between classroom and clinic	Perceived differences between how students are taught to handle situations and how the care team or environment functions.	Cantrell et al. 2005, p 187 Bordignon et al. 2019, p 2333
Difficult ethical topics encountered by students for the first time	Students experiencing controversial topics in clinical settings where they have not had opportunities to voice their values before.	Sasso et al. 2016, p 528
Characteristics unique to educational environments	Pressure from characteristics like incivility among students, cheating and copying examination and homework material, bullying, and regulations surrounding professional education.	Sasso et al. 2016, p 529
Negative mentoring	Students perceiving that their mentors do not act ethically or respect certain values.	Bordignon et al. 2019, p 2333 Renno et al. 2008, p 308
Academic and medical school application stressors	The competitive culture among pre-medical students may cause them to feel that the only way of keeping up is by making moral decisions they otherwise would not make.	Sevlever and Rice 2010, p 98
Misunderstood responsibility in clinical environments	Students who feel they are useless when shadowing in clinical environments may be pressured to contribute beyond their capabilities.	Radcliffe and Lester 2003, p 36).

Undergraduate Ethics Education

The final section of this chapter discusses undergraduate ethics education as a means of mitigating moral distress. If successful, incorporating ethics course work into undergraduate curricula gives students experience identifying, navigating, and resolving ethical dilemmas and morally distressing situations before they transition into medical school. Ethics programs have become increasingly popular in medical school education, although it may be some students' first or only exposure to ethics training. This section proposes that ethics training should be emphasized in all undergraduate level health care education in order to engage students earlier and allow for more practice recognizing and thinking through potential dilemmas. Prioritizing ethical problem solving earlier in the education process will allow students to better recognize their personal values, provide confidence for students to voice their values once they transition to clinical environments, and initiate conversations to improve institutional contributors of moral distress.

One article by Settimio Monteverde described the current expectations of undergraduate health care ethics education as a method to enhance knowledge, skills, and attitudes in students so that they are prepared to face ethical issues in professional practice (Monteverde 2014, p 386). In the same way that students are taught the importance and mechanics of certain clinical skills prior to entering patient environments, the goal of pre-medical ethics education is to provide foundational knowledge before students enter difficult ethical situations. At an undergraduate level, this is particularly important so that students understand the culture of the clinical settings they will be

entering, which occurs at different times depending on the rotation schedule of the medical school they will attend. More recently, researchers have been interested in evaluating whether current undergraduate ethics programs are actually meeting these goals, but their conclusions have varied widely based on the conceptual framework being used in each study (Monteverde 2014, p 386).

In his analysis, Monteverde exposed undergraduate pre-nursing students to a six-week module of problem-based learning scenarios which covered topics in nursing ethics, ethical theories, and legal aspects of patient autonomy (Monteverde 2014, p 394). After completing the module, students indicated how they would rate the applicability of the bioethical frameworks, and whether they thought theories were helpful when answering ethical questions in clinical settings (Monteverde 2014, p 395). Of the four types of theories which were explored throughout the module (deontology, consequentialism, ethics of care, and principlism), the students reported that principlism was the most applicable, and that all of the theories were at least somewhat helpful as a decision making aid in clinical practice (Monteverde 2014, p 395). While these results only reflect the translatability of the sampled module, it suggests that some ethical theories may be more applicable to clinical settings than others. If the goal of ethics education in pre-medical undergraduate populations is to prepare students for situations like what they may encounter once they reach patient settings, more research should be done on exactly what information should be taught, and how to best present it.

One of the major obstacles to creating a consistent and strong foundation of ethics education in pre-medical undergraduate populations is the variability of exposure provided to students across institutions. Similar to medical school programs, there is a great variety in the curricula content, professor skill sets, and extent of ethics education courses offered across institutions. While many US medical schools have adopted some type of humanities education as part of their curricula, most public undergraduate institutions do not require students to take ethics-specific courses as part of their graduation or major requirements. Undergraduate institutions may not have designated bioethics or health care ethics preparation courses developed specifically for pre-medical students, and so if students seek these kinds of courses, they may be directed to general philosophy or religion classes. As mentioned in the study by Monteverde, if the goal of these classes is to teach material that is translatable to clinical settings, there should be more opportunities to tailor material for these student's needs.

While general ethics education can provide a helpful foundation for pre-medical undergraduate students, it may not be reaching the optimal potential for preparing students for medical school and professional practice environments. Implementing curricula material that recognizes moral distress as a relevant barrier in health care education will assist in mitigating the problem. There is a significant lapse in recognition of moral distress in pre-medical populations. By acknowledging the pre-medical populations are at risk, institutions may better identify sources of distress in both educational and clinical environments. Undergraduate ethics programs should teach

students about the prevalence of moral distress early on so they may successfully navigate problems faced prior to medical school as well as in their future careers.

CHAPTER FOUR

DISCUSSION AND RECOMMENDATIONS

The final chapter of this thesis summarizes and makes recommendations regarding moral distress in medical education compared with Jameton's original focus on nurses' experiences with moral distress. Jameton's definition of moral distress focused on practicing nurses because of their hierarchal powerlessness and vulnerability to institutional pressures. Over time, we have gained a deeper understanding of the reach and magnitude of these pressures. As mentioned in previous chapters, some scholars have applied Jameton's ideas to other professionals and students who may experience relative hierarchal powerlessness. Expanded applications of moral distress continue to share a concern for institutional pressures, but consider a greater range of populations and sources which may be affected by and give rise to moral distress.

This first section of this chapter summarizes the argument that students may experience moral distress in every stage of medical education. Moral distress may arise from different sources based on the stage of medical education. Challenges unique to each stage of medical education give rise to similar feelings of anxiousness and doubt as described by Jameton's definition of moral distress. Recognizing that students in all stages of medical education may be affected by moral distress allows for increased

discussion and improved efforts to address moral distress be tailored to each step in the education process.

If addressed early, individuals may be able to better identify sources of moral distress and be more willing to speak up in distressing situations as students and later in their careers. Moral residue and symptoms contributing to burnout may be reduced in students and potentially prevented in physician careers. This chapter concludes by reiterating the importance of recognizing moral distress in students throughout the medical education process and calls for additional research in student populations. I suggest specific goals such as starting moral distress education earlier in the medical education process, in pre-medical undergraduate education before medical school begins, and creating standardized learning outcomes related to moral distress.

Comparing Moral Distress Faced by Students and Jameton's Focus in Nursing Populations

The previous chapters argued that moral distress was prevalent throughout each stage of medical education. In medical school and residency, individuals reported experiencing moral distress based on their unique position as trainees. The medical student's and resident's role provided them with limited responsibility and a low position in the care team hierarchy. In order to maintain positive relationships with their

evaluators and play a part on the team, students and residents sometimes felt pressured to act in ways they were not comfortable with. Jameton described similar institutional pressures faced by nurses in his definition of moral distress. Residents and medical students are similar to nurses to the extent that they play a key role on care teams but report to decision makers with more hierarchal power. In all three cases, the individual may feel pressured to act or be associated with decisions that go against what they view as the morally correct course of action. Although Jameton studied nurses when creating his definition of moral distress, his ideas apply to students throughout the medical education process.

Jameton's account of moral distress focuses mostly on situations where nurses are asked to perform or go along with unethical actions performed by their supervisors. When nurses know the actions go against what they view as morally right, they may experience moral distress. This same type of moral distress is possible in all stages of medical education, for example, when an undergraduate observes unethical actions by the physician they are shadowing or when medical students and residents are given directions to act unethically by supervisors. This kind of moral distress reflects institutional pressures and the protection of bad actors. Students are particularly vulnerable to this kind of distress because they may not have the confidence, knowledge, or authority to refuse taking part in these actions and thus feel helpless in the situation.

After examining the feelings and sources of distress discussed by students in the medical education process, it seems there is a slightly different type of moral distress that falls beyond Jameton's original focus. Students in the residency and medical school stages of medical education often described feelings of moral distress associated with being asked to perform actions outside of their capacity. While the actions they are asked to perform may not be morally wrong, students felt that they may potentially harm or compromise patient care by completing them when they did not feel qualified. One story by Atul Gawande depicts these feelings through the example of a surgical trainee attempting a procedure for the first time. The story questions the learning curve faced by many students training to practice medicine and asks: "Do we ever tell patients that, because we are still new at something, their risks will inevitably be higher, and that they'd likely do better with doctors who are more experienced? Do we ever say that we need them to agree to it anyway?" (Gawande 2002, p 59). This type of moral distress is slightly different from what Jameton discussed in his original definition of moral distress and may reflect a more expanded view of his original concept. This type of moral distress may be inherent in the learning process; however, it deserves attention so that students may feel supported in their learning environments.

In addition to morally distressing events that are inherent in the learning process or the competitive nature of medical education programs, students are often influenced by what is known as the hidden curriculum. As mentioned in previous chapters, students are being formally taught one thing in class or simulation labs and encounter entirely

different attitudes and actions in clinical settings (Hafferty et al. 2015, p 134). Hafferty and colleagues recognize that in what they call "on doctoring" courses, it will always be easier to design isolated examples that showcase the "right ways" to act than it is to change the underlying culture of the medical school or broader clinical environments (Hafferty et al. 2015, p 136). Until practice environments change to better reflect these ideals, students will continue to receive conflicting messages on what it means to be a good or successful doctor (Hafferty et al. 2015, p 136). Moral distress may result from students struggling to make sense of why they are learning different things from different environments. This has the potential to affect students in all stages of the medical education process, whether they are shadowing as pre-medical undergraduates or learning to practice as medical students and residents.

Recommendations and Future Research

The final section of this chapter will discuss recommendations for alleviating and preventing moral distress in medical education. First I discuss recommendations made by scholars in the literature, followed by my opinion to emphasize directed, undergraduate bioethics education. As mentioned earlier, very few studies recognize or provide recommendations regarding moral distress that are specifically tailored to student populations. Existing studies have focused mostly on individual and group experiences in pre-nursing students. These studies have aimed to explore whether pre-nursing students

experience moral distress and identify potential sources that may affect them. This section will shift to examine methods of alleviating moral distress among residents, medical students, and pre-medical students. By alleviating or minimizing moral distress, symptoms like burnout which can accumulate in students and continue to build in their professional careers may also be minimized. This section concludes by calling for more research on the sources, prevalence, and long-term effects of moral distress in the medical education process, as well as ways to alleviate and prevent it. I examine recommendations made in moral distress literature and make personal suggestions which support these recommendations. Specifically, I suggest exposing students to bioethics education prior to medical school, in pre-medical education, and incorporating tailored learning outcomes relevant to moral distress.

One article by Bonnie Miller comments on ways to alleviate moral distress students experience when learning procedures. As mentioned in an earlier chapter, students often feel conflicted about placing their educational needs above a patient's ability to receive the best possible care. Miller provides an example case where a resident supervisor suggests their medical student performs their first lumbar puncture on a patient (Miller 2017, p 537). Performing the lumbar puncture would be an excellent opportunity for the student to practice, but the patient is concerned with the student's inexperience and requests that she does not take part in the procedure. When the resident supervisor assures the patient that they are in good hands with the student, the student worries that her supervisor is misrepresenting her abilities. Additionally, if the student refuses to

practice performing the lumbar puncture, they worry that their supervisor will evaluate them poorly and they may not have another opportunity to practice the needed skill. (Miller 2017, p 538). These competing factors surrounding the training situation may cause the student to experience moral distress.

In the case above, Miller recognizes the student's concern for her patient's well-being and that the principle of beneficence requires them to put the patient's care first (Miller 2017, p 538). At the same time, the student is obligated to develop and practice competencies for their future practice. Miller suggests that the resident physician directly in charge of the patient's care is primarily responsible for resolving these tensions (Miller 2017, p 539). Ideally, the resident may reframe the conversation to acknowledge the patient's concerns and ease the student's discomfort. By openly communicating with the patient and discussing the student's role, the value of them participating in the procedure, and how risks are minimized by the resident supervising the student, the patient may have more information to base their opinion from. Miller states that this kind of discussion respects the patient's moral agency by providing a true account of the situation while also alleviating the student's moral distress (Miller 2017, p 539). In reality, these conversations are often difficult and require poise, and so Miller also points to the value of practicing in simulated settings and prioritizing ethical training. She states that "ethical preparation is just as important as technical preparation in assuring that our trainees provide the best possible care to patients as they fulfill their obligation to learn" (Miller 2017, p 540).

Taking steps to minimize moral distress in student trainees creates a culture of safety. Miller concludes her article by stating the importance of role modeling and supporting a “speaking up” culture (Miller 2017, p 540). In order to promote conversations surrounding patient safety, students need to feel comfortable voicing their concerns and feelings of moral distress. Voicing concerns over patient safety and distress should be viewed as a moral action taken in the best interest of the patient rather than insubordination against supervisor instruction (Miller 2017, p 540). William Martinez and colleagues recognize that a student's desire to fit in among care teams and the fear of repercussions may trump the moral courage required to speak up about concerns (Martinez et al. 2015, p 672). Although most programs teach formal patient safety curricula to their trainees, the hidden curriculum may be a more powerful influence causing students to suppress speaking up in difficult scenarios (Martinez et al. 2015, p 672). In order to best prevent moral distress and promote patient safety, communication should be prioritized between students and care teams.

An article by Reid Waldman and colleagues takes the emphasis on communication a step further by saying that situations of moral distress can stimulate difficult but valuable conversations between students and their supervisors (Waldman et al. 2019, p 430). Because it is improbable that all cases of moral distress can be prevented, Waldman and colleagues suggest a framework that promotes identifying the root causes of moral distress, constructively eases feelings of helplessness, and decreases negative long term feelings of distress and moral residue (Waldman et al. 2019, p 430). In order to turn this into a constructive process, they believe it is useful to investigate

how two individuals who are both trying to act in the patient's best interest may come to different moral conclusions. They came up with five key reasons why this may occur, including medical knowledge gaps, ideological knowledge gaps, patient care information gaps, longitudinal care gaps, and rarely, true maliciousness (Waldman et al. 2019 p 430). Most of these contributors to moral distress include some type of knowledge gap, misunderstanding, or disagreement among individuals or policies. Waldman and colleagues encourage trainees and physicians to debrief how all parties may view a given situation, not just clinically, but from a value-based perspective (Waldman et al. 2019, p 431). These discussions lead to an improved understanding of how differing perspectives may result in feelings of moral distress, thereby helping to proactively mitigate distress and conflict between colleagues, mentors, and trainees (Waldman et al. 2019, p 431).

The *AMA Journal of Ethics* recently released a call to action exploring moral distress from the perspective of medical students and physicians (Perni 2017, p 533). The issue referenced several sources that suggest means of mitigating moral distress. Three of the articles advocated for the importance of shared decision making, transparency, and critical thinking among both students and clinicians on care teams (Perni 2017, p 534). Other articles argue for cultivating virtues like trust, empathy, and humility, which can promote ethical practice environments (Perni 2017, p 534). All of these recommendations center on communication among team members, which may dissolve intimidating perceptions surrounding staff hierarchy. If students are not afraid to voice concerns with their supervisors, actions can be taken to prevent moral distress. Discussing morally

distressing scenarios after they occur may also be valuable, so that moral residue may be resolved and feelings of burnout avoided.

On an institutional level, students should receive organizational support for reporting unethical or substandard behavior (Perni 2017, p 534). Institutions may also incorporate tailored, case-based ethics education into their curricula as a means of teaching students to recognize moral distress and preparing them to seek solutions (Perni 2017, p 535). Although it is not necessarily the sole purpose, or within the ability, of overarching ethics courses to prevent moral distress, recognizing the phenomenon in a dedicated curriculum space will bring more awareness to the issue. Programs like the "Moral Distress Education Project" and the moral distress consultation services serve as examples of programs that have dedicated resources to the issue (Perni 2017, p 535). While it may be difficult to change the competitive and ethically challenging climate of medical education programs, small steps to alleviate pressures may reduce likeliness for moral distress and burnout.

Of the literature that addresses moral distress in student populations, there is a larger focus on the residency and medical school stages of medical education. Many articles refer to moral distress that arises based on residents or medical students possessing some responsibility in patient care, yet still being low in the hierarchy of care. While these issues are certainly important and require more extensive research and attention, undergraduate pre-medical students also have the potential to face significant

moral distress. The chapter on undergraduate moral distress gave examples of the unique ethical challenges faced by pre-medical students, which have gone highly unrecognized in the moral distress literature. Because the effects of moral distress accumulate over time, they should be recognized and prevented in the education process as early as possible. More research is needed to better understand the sources, prevalence, and effects of moral distress at the undergraduate level, and it should be given just as much attention as moral distress in other stages of medical education.

In order to accomplish change in medical education, I believe the focus must shift to undergraduate pre-medical education. Many scholars overlook pre-medical undergraduate students as important players in the medical education process because they have little to no exposure in clinical settings. As mentioned in the chapter on undergraduate education, pre-medical students possess no formal clinical training in United States curricula models. Instead, pre-medical undergraduate students spend their time establishing basic science and health humanities foundations. Bioethics education should be prioritized during this time to introduce students to topics like moral distress before they enter clinics. In many cases, current medical students are being introduced to bioethics education for the first time as graduate students, allowing limited exposure and time for exploration when competing with clinical education demands. Because undergraduate pre-medical years are meant to serve as a foundation for medical school, I believe we need to prioritize all aspects of what students will be experiencing, both in basic science foundations and bioethics foundations. Rather than waiting until medical school to prepare students for morally distressing situations, we need to start earlier.

One way of prioritizing moral distress content in undergraduate pre-medical education is to incorporate specific learning outcomes within courses. Institutions should create options for bioethics courses tailored to pre-medical students in addition to general ethics, philosophy, and religion courses. These options could focus on professionalism and moral distress issues similar to what students will experience in medical school training environments. Specific learning outcomes should be created to ensure some standardization across programs. One example of a learning outcome could be for students to identify and understand potential sources for moral distress. Other learning outcomes could focus on alleviating the problem and holding discussions about what students can do to recover from distressing situations they experience. By acknowledging moral distress in a formal undergraduate curriculum space, students will be more prepared to prevent, navigate, and show resilience in distressing situations. Creating specific learning outcomes related to moral distress is one way of ensuring undergraduate bioethics courses acknowledge and address the issue.

In conclusion, this thesis has argued that moral distress can affect students within all levels of medical education. Although Jameton's original definition of moral distress focused on nursing professionals, scholars have argued that it may also apply to other health care professionals and their trainees. Residents, medical students, and undergraduate pre-medical students are vulnerable to institutional pressures brought upon by their exposure to clinical environments and low position in the hierarchy of care. If moral distress goes unresolved, it may contribute to feelings of burnout and other negative symptoms that affect students in their training and later in their careers. In order

to avoid the detrimental accumulating effects of moral distress, it should be addressed as early as possible. Promoting a “speaking up” culture for students to voice their discomfort, being conscious of the “hidden curriculum” in trainee environments, and promoting ethics and moral distress training throughout the medical education process may help to alleviate current and prevent future moral distress. More research needs to be completed on how to best address moral distress in student populations and in all stages of the medical education process. Most importantly, we need to acknowledge moral distress earlier in the medical education process and act to prevent and address it.

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Beyond Our Beginnings: 50 Years of Bioethics Conference	April 2019
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TCNJ Markets and Morality Conference	September 2017
Seattle Children's Hospital Pediatric Bioethics Conference	July 2017