KANSAS JOURNAL of MEDICINE

Brief Report

Moral Injury Among Transplant Providers: Evaluating the Effects of Training in End-of-Life Counseling

Hannah S. David, MPH[1], Tarris Rosell, Ph.D., D.Min., M.Div.[1,2], Dorothy Hughes, Ph.D., MHSA[3]

[1]University of Kansas School of Medicine, Kansas City, KS
[2]Department of History and Philosophy of Medicine
[3]University of Kansas School of Medicine-Salina, Salina, KS

Received July 24, 2023; Accepted for publication Dec. 11, 2023; Published online Dec. 31, 2023
https://doi.org/10.17161/kjm.vol16.21171

ABSTRACT

Introduction. Ethical issues are pervasive in healthcare, but few specialties rival the moral complexity of transplant medicine. Transplant providers must regularly inform patients that they are no longer eligible to receive a potentially life-saving operation and the stress of these conversations poses a high risk of moral injury. Training in end-of-life counseling (EOLC) has proven to significantly reduce provider stress and burnout. The purpose of this study was to determine whether training in EOLC reduces levels of moral injury among transplant providers.

Methods. This was a mixed methods study. We interviewed 10 patient participants and administered a survey to staff in the solid organ transplant department at the University of Kansas Health System. Respondents indicated whether they had received training in EOLC and completed the standardized Moral Injury Symptom Scale-Healthcare Professionals version (MISS-HP). A two-sample, one-sided t-test compared levels of moral injury between trained and untrained staff. Subsequently, we conducted semi-structured interviews with transplant providers, then performed inductive coding followed by thematic network analysis.

Results. Thirty-seven percent (14/38) of respondents reported a moral injury score at or above the threshold for psychosocial dysfunction associated with moral injury. Analysis revealed no difference in moral injury scores between the trained and untrained groups ($p = 0.362$, power $(1-\beta) = 0.842$). Thematic network analysis demonstrated high-level themes of "challenges", "training", and "stress relief".

Conclusions. Our study demonstrated a concerning prevalence of moral injury among transplant staff and suggested that EOLC training did not significantly mitigate the threat of moral injury.

Kans J Med 2023;16:324-327

INTRODUCTION

Ethical issues exist in all fields of healthcare; however, few specialties rival transplant medicine in terms of moral complexity and emotional strain. Notwithstanding recent advances in xenotransplantation,[1] transplant surgery remains primarily dependent on human organ donation and the allocation of a scarce, life-saving resource. Despite the best efforts of the medical community in the United States, approximately 6,200 patients die annually while awaiting an organ.[2] Thousands more are deactivated from the waitlist for various reasons, including physical decline, making transplant survival unlikely.[3] Transplant providers regularly engage in end of life conversations with patients and, in the absence of appropriate support, are at high risk of moral injury.

Moral injury is a concept created to describe the effects of wartime stress on military personnel. It has been defined as "perpetrating, failing to prevent, or bearing witness to acts that transgress deeply held moral beliefs and expectations."[4] In recent years, moral injury has emerged as a subject of discussion in healthcare contexts. Although physician distress has frequently been described using terms such as workplace stress or burnout, scholars have recently argued that moral injury may be a more appropriate term, as it encompasses the ethical, and even existential, challenges faced by providers caring for patients with terminal illness.[4]

The breaking of bad news is an acute stressor in all specialties and poses a substantial risk of physician distress.[5] One potential means of mitigating moral injury is to provide training in end-of-life counseling (EOLC). Training to improve communication skills is among the most effective ways to reduce physician stress.[3,6] Historically, training in breaking bad news has been neglected in medical curricula, and as recently as 2014, the majority of clinicians reported that they had not received formal training in holding difficult patient conversations.[7] The purpose of this study was to determine whether training in EOLC reduces levels of moral injury among transplant providers.

METHODS

We utilized a mixed methods approach in this study, which was approved by the University of Kansas Medical Center Institutional Review Board. We administered a survey consisting of closed-ended questions to staff working in the solid organ transplant department at the University of Kansas Health System (UKHS) in Kansas City. Physicians, nurses, social workers, and chaplains received the survey because they played a role in direct patient care. Study data were collected and managed using REDCap®, an electronic data capture tool hosted at the University of Kansas Medical Center.[8,9] Written informed consent was obtained from subjects prior to beginning the survey.

The survey evaluated the level of EOLC training respondents had received and administered the Moral Injury Symptoms Scale – Healthcare Professionals version (MISS-HP), a standardized tool in the literature designed to quantify moral injury.[10] The MISS-HP contains a mix of positively and negatively worded items to reduce response bias, and it has a strong evidence base in the literature.[10-14] We stored responses in a secure REDCap® drive, accessible only to IRB-approved study members, to ensure anonymity.

A two-sample, one-sided t-test compared levels of moral injury between participants who had received EOLC training and those who had not. A one-sided t-test evaluated whether moral injury levels were lower among staff members who received training in EOLC. We used Microsoft Excel® to analyze quantitative data.

Following survey administration, we conducted semi-structured interviews with respondents who indicated an interest in further discussion. The same facilitator conducted all interviews individually. An interview guide of four questions, based on themes in the literature, elicited elaboration on survey responses. The interview guide's

finalization considered feedback from Jody Olson, M.D., who previously served on the liver transplant team at UKHS.

Participants answered questions about the greatest challenges in telling a patient that they were no longer eligible for transplant, the most challenging questions they had been asked by a patient, whether they found their job mentally and emotionally stressful and ways in which they managed this, and in what ways they felt that training in EOLC could be improved. The interviewer recorded all interviews via Zoom and transcribed the audio recordings verbatim. We did not employ member checking for two reasons: 1) interviewees already relayed potentially distressing or traumatic experiences during the interview, and the potential value of engaging them in member checking did not outweigh the potential for harm; and 2) analysis of the qualitative data alongside analysis of the survey responses allowed us to engage in validating the qualitative data without using member checking. The first author (HD) conducted manual inductive coding of the transcripts, guided by principles of grounded theory and facilitated by NVivo.[15] The first (HD) and senior (DH) authors developed the final codebook by consensus. The first author (HD) organized the codes into a thematic network and finalized it by consensus with the co-author (DH and TR).[16]

RESULTS

Thirty-seven of the 105 people who received the survey provided a completed response, for a response rate of 34.6%. Physicians comprised 27% (10/37) of respondents, while nurses, including APRNs and nurse practitioners, represented 56.8% (21/37) and the remaining 16.2% (6/37) identified as social workers and chaplains.

Of these, 35.1% (13/37) indicated that they had received EOLC training, while 64.9% (24/37) had not. One respondent had received training during their undergraduate degree, four had been trained in graduate school, seven in post-graduate or residency programs, and 12 while on the job or through continuing medical education (we allowed multiple responses to this question on the survey). Eight participants had undergone training within the past five years, four within the last 6-10 years, and one within the last 11-15 years. Regarding training modality, nine respondents learned from a lecture-based model; three from an experiential model, including standardized patient simulations and role-playing with peers; and one indicated "other", noting that they had had a palliative care rotation during fellowship training.

On a scale of 1-100, 36.8% (14/38) reported a MISS-HP score at or above 36, the recognized threshold for higher risk of psychosocial dysfunction associated with moral injury.[10] A two-sample, one-sided t-test revealed no difference in moral injury scores between trained and untrained groups ($p = 0.300$, power = 0.842).

Ten survey respondents expressed interest in a follow-up interview. Three physicians (one transplant surgeon and two transplant hospitalists), three nurses, and four chaplains completed interviews. We identified the following primary codes: challenges, stress relief, and training, as detailed in Table 1. Interview responses are detailed in Table 2.

Table 1. Thematic network analysis of interview responses.

Primary Themes	Secondary Themes	Tertiary Themes	Number of Interviewees Expressing This Theme
Challenges	Caregiver burden	Taking work home	4
		Losing patients	3
		Powerless to help	4
	Organ allocation	Rejection for transplant	4
		Relapse	1
		Realization that someone else must die	2
	Patient communication	Difficulty accepting prognosis	2
		Giving realistic hope	5
Training	Attitudes toward EOLC training	Training is important	5
		Hard to facilitate	3
		Best to consult palliative care	3
	Areas to improve	Interdisciplinary communication	3
		Bedside manner	6
Stress relief	Interpersonal support	Community support	5
		Workplace support	7
		Seeing a therapist	2
	Personal care	Exercise	3
		Time away from work	5
		Mindfulness	6

Table 2. Prominent interview themes with illustrative quotes.

Caregiver burden	*"We create these really close, intimate relationships with [patients] and with their caregivers so we're there in the final stages when they do pass away, and it's not only the patient that passes away but then you don't have that family that you get to see any more in the clinic and you don't get to hear stories about how they're doing, so it's like losing your own family member."* (Nurse)
Organ allocation	*"I tell patients that, for you to survive, there's two people who have to die: the person who's going to give you their liver and the person that you're going to take the liver away from, who might have been a better candidate. So, I usually look at it from that way, that I have the utmost obligation to protect that gift of life, making sure that the candidate who's going to get it is well deserving of it."* (Physician)

Interpersonal support	*"I feel like the people that I work with are almost as much family to me as the people that I live in my house with, and so we share the good, the bad, the ugly, and we all lean on each other for support when something does happen."* (Nurse)
Personal care	*"I think part of it comes with learning that you can't carry everyone's burden and the memory of everything that you've done, with you. There are some things that will never leave your heart, you know, that as long as I have memory, I will remember them, and it amazes me how many things I do let go. I think that that's probably very healthy because, to be honest, those are not my things to carry, those are not my emotions to carry. I can do my part, and then I think it is appropriate to let go as much as I can."* (Chaplain)
Difficulty facilitating EOLC	*"I guess I could do a better job of bringing medical students and residents into that situation, but then that's always awkward for the families to have some person there who has nothing to do with anything, just watching them suffer. So how do you train someone how to deal with that, but not destroy the family's relationship that you have with them."* (Physician)

DISCUSSION

Over one-third of transplant staff in this study had a moral injury score at or above the threshold for risk of psychosocial dysfunction, indicating a concerning prevalence of moral injury on their transplant teams. These levels are comparable to healthcare workers caring for COVID-19 patients at the height of the pandemic; studies demonstrated a moral injury prevalence of 32.4-41% in providers caring for COVID-19 patients during lockdown,[14] compared to a pre-COVID prevalence of 23.9% among healthcare workers.[17] Our findings indicated that transplant providers are at substantial risk of moral injury and that EOLC training is likely insufficient to mitigate this threat, as respondents who had received EOLC training did not demonstrate lower moral injury scores.

Participants' interview responses suggested several reasons for this lack of significant differences. Although most respondents endorsed the benefits of EOLC training, some pointed out that effective training could be difficult to facilitate. One physician noted that the stress of breaking bad news cannot be fully replicated through standardized patient interactions or didactic lectures and that, though it was possible to bring students to witness EOLC patient encounters, it could cause distress to patients to have an additional person in the room to witness their suffering as they received difficult news. Interviewees discussed that more tangible sources of stress relief included personal care practices and time away from work, as well as community support. Workplace support stood out as a prominent source of stress relief for most respondents. Participants stated that, though they felt strongly supported by their friends and family outside of the workplace, there was a sense of comfort, camaraderie, and understanding in talking to those who shared their experiences and understood the gravity of caring for the terminally ill firsthand. Exploring the impact of team support, as well as means to cultivate a supportive workplace, could be a fruitful direction for future studies.

CONCLUSIONS

These findings suggested that transplant providers are at significant risk of moral injury based on the ethical and emotional stress posed by their specialty. Furthermore, EOLC training was shown to be insufficient to mitigate this threat to staff wellbeing. Transplant staff cited workplace support as a primary source of stress relief, but future research is needed to understand the protective effects of workplace support on moral injury.

ACKNOWLEDGEMENT

Funding for this study was provided by the Clendening and King Summer Research Fellowship Grant at the University of Kansas School of Medicine.

REFERENCES

[1] Reardon S. First pig-to-human heart transplant: What can scientists learn? Nature 2022; 601(7893):305-306. PMID: 35031782.
[2] Organ donation statistics. 2023. https://www.organdonor.gov/learn/organ-donation-statistics. Accessed December 8th, 2023.
[3] Denu RA, Mendonca EA, Fost N. Potential yield of imminent death kidney donation. Am J Transplant 2018; 18(2):486-491. PMID: 28975705.
[4] Čartolovni A, Stolt M, Scott PA, Suhonen R. Moral injury in healthcare professionals: A scoping review and discussion. Nurs Ethics 2021; 28(5):590-602. PMID: 33427020.
[5] Alelwani SM, Ahmed YA. Medical training for communication of bad news: A literature review. J Educ Health Promot 2014; 3:51. PMID: 25077144.
[6] Whitsett MP, Ufere NN, Patel A, et al. Palliative care experience and perceived gaps in training among transplant Hepatology Fellows: A national survey. Hepatol Commun 2022; 6(7):1680-1688. PMID: 35411683.
[7] Studer RK, Danuser B, Gomez P. Physicians' psychophysiological stress reaction in medical communication of bad news: A critical literature review. Int J Psychophysiol 2017; 120:14-22. PMID: 28666771.
[8] Harris PA, Taylor R, Thielke R, Payne J, Gonzalez N, Conde JG. Research electronic data capture (REDCap) – A metadata-driven methodology and workflow process for providing translational research informatics support. J Biomed Inform 2009; 42(2):377-381. PMID: 18929686.
[9] Harris PA, Taylor R, Minor BL, et al. The REDCap consortium: Building an international community of software partners. J Biomed Inform 2019; 95:103208. PMID: 31078660.
[10] Mantri S, Lawson JM, Wang Z, Koenig HG. Identifying moral injury in healthcare professionals: The Moral Injury Symptom Scale-HP. J Relig Health 2020; 59(5):2323-2340. PMID: 32681398.
[11] Zhizhong W, Koenig HG, Yan T, et al. Psychometric properties of the moral injury symptom scale among Chinese health professionals during the COVID-19 pandemic. BMC Psychiatry 2020; 20(1). PMID: 33238949.
[12] Üstün G. Psychometric properties of the Turkish version of the Moral Injury Symptom Scale: Healthcare professionals version. J Psychiatr Nurs 2021. https://doi:10.14744/phd.2021.34603.
[13] Rodríguez EA, Agüero-Flores M, Landa-Blanco M, Agurcia DG, Santos-Midence C. Moral injury and light triad traits: Anxiety and depression in health-care personnel during the COVID-19 pandemic. Hisp Health Care Int 2021; 19(4):230-238. PMID: 34664509.
[14] Rushton CH, Thomas TA, Antonsdottir IM, et al. Moral injury and moral resilience in health care workers during COVID-19 pandemic. J Palliat Med 2021; 25(5):712-719. PMID: 34678091.
[15] Rosen A, Cahill JM, Dugdale LS. Moral injury in health care: Identification and repair in the COVID-19 era. J Gen Intern Med 2022; 37(14):3739-3743. PMID: 35970958.

[16] Attride-Stirling J. Thematic networks: An analytic tool for qualitative research. Qualitative Research 2001; 1(3):385-405. https://doi.org/10.1177/146879410100100307.
[17] Mantri S, Lawson JM, Wang Z, Koenig HG. Prevalence and predictors of moral injury symptoms in health care professionals. J Nerv Ment Dis 2021; 209(3):174-180. PMID: 33273393.

Keywords: moral injury, end of life counseling, health education, transplant

Presentations: This research was previously presented at the American College of Physicians Kansas chapter meeting during the student poster session on October 27th, 2022, at the Marriot Hotel in Overland Park, Kansas.