Original Article

Exploring Ethical Challenges in Emergency Medical Services: A Qualitative Study

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Abstract

Background: Emergency medical technicians (EMTs) face complex ethical dilemmas in their frontline role, involving resource constraints, time pressure, patient autonomy, and competing obligations. This qualitative study explored the experiences of EMTs, their decision-making processes, and the potential areas for enhancing ethical practices in emergency medicine, aiming to inform targeted policies and training programs that support EMTs and improve care quality.

Methods: A total of 17 EMTs from Qom province participated in this study and in-depth interviews were conducted to gather rich and detailed insights into their experiences. The interviews were transcribed and analyzed using Graneheim and Lundman's conventional content analysis to identify common themes and patterns related to ethical challenges.

Results: The findings identified five main categories of ethical challenges faced by EMTs including *ethical dilemmas*, *professional conduct*, *communication and consent*, *ethical training and support*, and *organizational challenges*. Within these categories, specific subcategories emerged, including *decision-making challenges*, *conflict of interest*, *resource allocation*, *end-of-life care*, *dual relationships*, *emotional boundaries*, *privacy and confidentiality*, *breaking bad news*, *language barriers*, and *informed consent*. Each subcategory shed light on the unique ethical challenges faced by EMTs.

Conclusion: This study highlighted the complex ethical landscape in which EMTs operate and provided valuable insights into the challenges they face. The findings underscored the need for comprehensive ethical training, support mechanisms, improved communication strategies, and an organizational culture that promotes ethical conduct. It is essential to address these challenges to enhance the ethical practices and decision-making skills of EMTs, ultimately leading to improved patient care and outcomes.

Keywords: Emergency medical technicians, Ethical challenges, Qualitative research

Introduction

Ethical considerations play a crucial role in the field of emergency medicine, where medical professionals often confront complex and morally challenging situations that require immediate decision-making. Among these professionals, emergency medical technicians (EMTs) hold a unique position as frontline providers of emergency care, facing their own set of ethical dilemmas while performing their critical duties (1,2). These dilemmas arise from various factors, such as resource constraints, time pressure, patient autonomy, confidentiality, triage decisions, and balancing competing obligations (3-6). It is essential to gain a comprehensive understanding of the ethical challenges faced by EMTs to empower them in navigating these complex situations effectively.

The ethical challenges encountered by EMTs require careful analysis and decision-making, frequently under time pressure and with incomplete information. These challenges can entail dilemmas concerning prioritizing patients, ensuring informed consent for treatment, maintaining patient confidentiality, allocating limited resources, respecting cultural and religious beliefs, and managing conflicts of interest (4,7,8). Decisions in these high-stakes situations can have profound consequences for patients, their families, and the professionals themselves (7,9).

While there have been significant advancements in medical technology and emergency care protocols, the ethical dimensions of emergency medicine remain complex and evolving (10,11). In recent years, there has been a growing recognition of the significance of ethics in emergency care and the necessity of a strong ethical framework for assisting professionals in making sound decisions (12). However, the specific ethical challenges

faced by EMTs in their day-to-day work have not been extensively explored.

This qualitative study seeks to provide a comprehensive understanding of the ethical challenges faced by EMTs. By delving into their experiences and perspectives, the study aims to explore the intricate ethical dilemmas they encounter, examine the factors that influence their decision-making processes, and identify potential areas for enhancing ethical practices in emergency medicine. By shedding light on the ethical challenges faced by EMTs, this study can contribute to the development of targeted policies, protocols, and training programs that effectively address these challenges. Furthermore, understanding the experiences and perspectives of EMTs can aid in identifying approaches to bolster their moral resilience, promote ethical practices, and ultimately enhance the quality of care provided in emergency situations.

Methods

The present study was conducted using a qualitative content analysis approach from April 2019 to September 2020. Qualitative research methods aim to discover and understand individuals' inner experiences, as these shape their reality. By immersing themselves in the participants' experiential world, researchers can understand the meaning of phenomena from the viewpoint of the participants (13). The study took place at an EMS provider in Qom. The research population consisted of all pre-hospital emergency workers. The participants in the study were 17 EMTs with associate and bachelor's degrees in emergency medicine. The study commenced with purposive sampling and continued until data saturation was reached. Purposive sampling involves selecting individuals who have sufficient knowledge and experience related to the subject to provide relevant data (14).

For this study, the inclusion criteria for participants were having at least one year of experience in pre-hospital emergency services and willingness to participate. A total of 17 EMTs who met these criteria agreed to be interviewed for the study. The interviews were conducted individually in a location chosen by the participants at their convenience.

Data were collected through semi-structured interviews. The participants were asked introductory questions to establish rapport, followed by specific questions related to the objectives of the study. The participants were encouraged to provide detailed descriptions of a typical workday in pre-hospital emergency services and share their emotions and experiences. Probing questions were used to gain deeper insights. The interviews, conducted by the first author, lasted between 30 to 60 minutes based on participant response time (13). In this study, data saturation was reached after 14 interviews according to the research team's assessment, and to ensure no new data emerged, three additional interviews were conducted.

The data analysis in this study followed the method proposed by Graneheim and Lundman (15), which involved five stages: 1) Immediate transcription of the interviews, 2) Reading and gaining a general understanding of each interview, 3) Identifying units of meaning and initial codes, 4) Categorizing similar codes into broader categories, and 5) Identifying underlying themes in the data. Handwritten and typed texts were transcribed immediately after the interviews and carefully read multiple times. Initial codes were extracted and merged based on similarities, and underlying concepts and content were extracted.

To enhance the validity and reliability of the data, four criteria—credibility, confirmability, dependability, and transferability—were considered following Lincoln and Guba's framework (16). The researcher established long-term relationships with the research sites, fostering trust with the participants and gaining a deeper understanding of the study environment. The participants were asked to review and validate the accuracy of codes and interpretations. After coding the interview text, the participants were allowed to review the codes and interpretations to ensure accuracy, modifying any codes that did not align with their perspectives. Maximum diversity was sought in participant selection, considering factors such as age, gender, work experience, education level, and workplace. The interview texts were reviewed by observers familiar with EMS and qualitative research methodology, incorporating their feedback and achieving a high level of agreement on the findings. Finally, a proficient English speaker translated the categories and quotations from Persian to English.

This study is part of a master's thesis approved by the Ethics Committee of Qom University of Medical Sciences (IR.MUQ.REC.1398.146) at the School of Health and Religion. Prior to commencing the study, all necessary approvals were obtained from the relevant authorities. The time and location of the interviews were arranged with the participants to ensure their convenience and availability. At the beginning of each interview, the research objectives, interview procedure, data confidentiality, and participants' autonomy to participate or withdraw were explained. Written consent was obtained from all participants, affirming their voluntary participation in the study.

Results

The study involved 17 male EMTs aged 25 to 49 years. Among them, 11 had a bachelor's degree, and the rest had an associate's degree. Nine EMTs worked in urban bases, and the remaining worked in road bases (Table 1). Through interviews, approximately 740 initial codes were generated. These codes underwent iterative review, resulting in five main categories including *ethical dilemmas*, *professional conduct*, *communication and consent*, *ethical training and support*, and *organizational challenges* (Table 2).

Table 1. Demographic characteristics of participants

Participant	Gender	Age	Education	Work Base
1	Male	32	Bachelor's degree	Urban
2	Male	41	Associate's degree	Road
3	Male	28	Bachelor's degree	Urban
4	Male	37	Bachelor's degree	Road
5	Male	25	Bachelor's degree	Urban
6	Male	45	Associate's degree	Road
7	Male	29	Bachelor's degree	Urban
8	Male	39	Bachelor's degree	Road
9	Male	31	Associate's degree	Urban
10	Male	48	Bachelor's degree	Road
11	Male	27	Bachelor's degree	Urban
12	Male	35	Associate's degree	Road
13	Male	33	Bachelor's degree	Urban
14	Male	42	Bachelor's degree	Road
15	Male	30	Bachelor's degree	Urban
16	Male	44	Bachelor's degree	Road
17	Male	36	Associate's degree	Urban

Table 2. Categories and subcategories of ethical challenges faced by EMTs

Category	Subcategory
Ethical dilemmas	Decision-making challenges
	Conflict of interest
	Resource allocation
	End-of-life care
Professional conduct	Dual relationships
	Emotional boundaries
	Privacy and confidentiality
Communication and consent	Breaking bad news
	Language barriers
	Informed consent
Ethical training and support	Insufficient training
	Lack of support
	Coping with moral distress
Organizational challenges	Workload and time pressure
	Limited resources
	Organizational culture

Ethical dilemmas

This category encompasses the ethical challenges faced by EMTs when encountering conflicting moral values and making complex decisions, highlighting the inherent tensions and ethical considerations that arise in emergency medical situations.

Decision-making challenges

EMTs often face difficult situations where they must make tough choices and balance the needs of multiple patients, constantly posing ethical dilemmas that require careful consideration and judgment. *"Sometimes, we face difficult situations where we have to make tough choices and balance the needs of multiple patients. It's a constant ethical dilemma"* (Participant 8).

Conflict of interest

In some cases, EMTs encounter situations in which they have personal relationships with patients or their families, making it challenging to maintain professional boundaries and prioritize patients' best interests. *"There are times when we have personal relationships with patients or their families, and it can be challenging to maintain professional boundaries and prioritize their best interests"* (Participant 12).

Resource allocation

Limited EMS resources often require EMTs to make tough decisions about who receives what level of care, balancing fairness and patient outcomes. *"With limited EMS resources, we often have to make tough decisions about balancing fairness and patient outcomes"* (Participant 3).

End-of-life care

Discussing end-of-life care with patients and their families can be emotionally challenging for EMTs, who strive to provide comfort and support while respecting patients' wishes for a dignified end. *"Discussing end-of-life care with patients and their families is emotionally challenging. We strive to provide comfort and support while respecting their wishes and ensuring a dignified end"* (Participant 10).

Professional conduct

Professional conduct refers to the expectations and standards of behavior that EMTs are expected to uphold in their practice. It involves maintaining professional boundaries, demonstrating empathy, and adhering to ethical principles to ensure patient-centered care.

Dual relationships

EMTs stated that they usually face challenges when providing care to individuals with whom they have pre-existing relationships, such as friends or acquaintances. They emphasized the need to balance their personal connection while ensuring impartiality and delivering quality care. *"It can be tricky when we provide care to friends or acquaintances. We have to balance our personal connection while ensuring impartiality and delivering quality care"* (Participant 4).

Emotional boundaries

EMTs, like all healthcare providers, often witness traumatic events in their line of work. Establishing and maintaining emotional boundaries is crucial to maintain professionalism and prevent burnout while delivering care. *"As healthcare providers, we often witness traumatic*

events. It's crucial to maintain professionalism and prevent burnout by establishing emotional boundaries" (Participant 13).

Privacy and confidentiality

Respecting patient privacy and confidentiality is a fundamental aspect of professional conduct. EMTs take great care to safeguard sensitive patient information and share it only on a need-to-know basis. "*Respecting patient privacy and confidentiality is essential. We must take great care to safeguard sensitive information and share it only on a need-to-know basis*" (Participant 6).

Communication and consent

Communication and consent are essential aspects of ethical healthcare delivery. This category focuses on the challenges related to effective communication with patients, breaking bad news sensitively, addressing language barriers, and obtaining informed consent in emergency medical settings.

Breaking bad news

EMTs emphasized that communicating bad news is one of the most challenging aspects of their job. They strive to find the right balance between honesty, empathy, and delivering the news sensitively. "*Communicating bad news is one of the most challenging aspects of our job. We have to find the right balance between honesty, empathy, and delivering the news sensitively*" (Participant 13).

Language barriers

Participants expressed that language barriers can complicate communications, particularly during emergencies. It is crucial to use interpreters or non-verbal communication techniques to ensure patients understand their condition and treatment options. "*Language barriers can complicate communications, especially during emergencies. It's crucial to use interpreters or non-verbal communication techniques to ensure patients understand their condition and treatment options*" (Participant 11).

Informed consent

EMTs acknowledged that obtaining informed consent is vital, but it can be challenging in emergency situations. EMTs stated they strive to provide clear explanations and involve patients in decision-making to the best of their abilities. "*Obtaining informed consent is vital, but it can be challenging in emergency situations. EMTs strive to provide clear explanations and involve patients in decision-making to the best of their abilities*" (Participant 6).

Ethical training and support

Ethical training and support refer to the need for comprehensive training and resources to navigate ethical challenges effectively. This category explores the issues related to the lack of sufficient training, the importance of support mechanisms such as mentors or ethical committees, and the coping strategies required to manage moral distress.

Insufficient training

EMTs emphasized that they receive limited training on how to navigate ethical dilemmas encountered in their line of work. They believed that more comprehensive training would improve their ability to navigate ethical dilemmas. "*Ethical dilemmas arise frequently in our line of work, but we receive limited training on how to navigate them. It would be beneficial to have more comprehensive training to improve our ability to navigate ethical dilemmas*" (Participant 2).

Lack of support

EMTs highlighted the lack of support when faced with ethical challenges. They believed that having access to mentors or ethical committees would provide valuable guidance and ease moral distress. "*When faced with ethical challenges, EMTs often feel unsupported. Having access to mentors or ethical committees would provide valuable guidance and ease moral distress*" (Participant 5).

Coping with moral distress

EMTs described situations where they found themselves in ethical dilemmas that conflicted with their personal values. They shared coping strategies, including self-reflection, getting support from colleagues, and the need for a safe space to discuss their experiences. "*Sometimes, EMTs find themselves in situations that conflict with their personal values. Coping with moral distress requires self-reflection, getting support from colleagues, and finding a safe space to discuss the experiences*" (Participant 7).

Organizational challenges

Organizational challenges encompass systemic factors that can impact ethical decision-making in EMS. This category explores the challenges related to workload and time pressure, limited resources, and the influence of organizational culture on ethical conduct.

Workload and time pressure

EMTs reported experiencing high workload and time pressure, which could affect their ability to provide optimal care. "*High workloads and time pressure can compromise patient care. We strive to provide the best care possible, but sometimes it feels like we're rushing through tasks, which can raise ethical concerns*" (Participant 1).

Limited resources

EMTs expressed concerns about inadequate resources, including equipment and staffing shortages, which could impact their ability to deliver quality care. "*Limited

resources can hinder our ability to provide optimal care. It's challenging to make ethical decisions when we're faced with resource constraints and must prioritize patients' needs" (Participant 9).

Organizational culture

EMTs highlighted the significance of organizational culture in shaping their work environment and influencing ethical conduct. "*The organizational culture plays a significant role in shaping our ethical behavior. A culture that prioritizes ethical conduct and encourages open communication can empower us to navigate complex situations with integrity*" (Participant 14).

Discussion

This study mainly focused on exploring the ethical dilemmas and challenges faced by EMTs. The study identified various categories, including ethical dilemmas, professional conduct, communication and consent, ethical training and support, and organizational challenges. Each category was further divided into relevant subcategories, allowing for a comprehensive examination of ethical challenges in EMS. The findings offer insights into the participants' experiences and perspectives, shedding light on the complexity of ethical dilemmas and providing valuable information for ethical decision-making and high-quality care.

Ethical Dilemmas in EMS encompass the complex and conflicting moral values that healthcare providers encounter in their daily practice (17). It is important to understand the challenges and tensions to ensure ethical decision-making and the provision of high-quality care. One subcategory explored in this study was *decision-making challenges*, which involved the difficult decisions and trade-offs that EMTs face when balancing the needs of multiple patients. The study revealed that EMTs regularly encounter such challenging situations, highlighting the constant ethical dilemmas inherent in their work. These findings are consistent with those of the previous studies that emphasize the complexity of decision-making in emergency healthcare settings (18,19).

Another subcategory was *conflict of interest*, arising from personal relationships between healthcare providers and patients or their families (20). This can create challenges in maintaining professional boundaries, impartiality, and prioritizing patients' best interests (21). In the current study, EMTs acknowledged the difficulties associated with managing such conflicts of interest, emphasizing the need to navigate these relationships while maintaining professional integrity. These findings emphasize the importance of managing conflicts of interest in healthcare settings (22,23).

Resource allocation was another critical subcategory within ethical dilemmas. In EMS, limited resources can necessitate difficult decisions about the allocation of care

(5). The present study highlighted the ongoing struggle faced by EMTs in ensuring fairness and optimizing patient outcomes given the available resources. These findings align with existing literature that emphasizes the challenges of resource allocation in emergency healthcare and the ethical considerations involved in these decisions (7,24). *End-of-life care* is a subcategory that involves discussions about sensitive topics surrounding death and dying. The present study found that EMTs find these conversations emotionally challenging but strive to provide comfort and support while respecting patients' wishes for a dignified end. These findings echo previous research on the complexities of end-of-life care discussions in EMS and the need for compassionate and patient-centered approaches (7,25). When comparing our findings with other studies, we found similarities in the challenges EMTs face in decision-making, conflict of interest, resource allocation, and end-of-life care. These challenges are recurring themes in the ethical dilemmas faced by healthcare providers, demonstrating how pervasive these issues are. However, it is important to note that specific contexts and healthcare systems may influence the nuances and variations of these challenges.

Professional conduct refers to the expectations and standards of behavior that healthcare providers, including EMTs, are expected to uphold in their practice (26). This category explored the challenges associated with maintaining professionalism, maintaining appropriate boundaries, and safeguarding patient information. One subcategory within *professional conduct* was *dual relationships*. This study found that EMTs face challenges when providing care to individuals with whom they have pre-existing relationships, such as friends or acquaintances. Balancing personal connections with impartiality and quality care delivery can be complex. These findings are consistent with prior research highlighting the ethical considerations and conflicts of interest that arise in dual relationship situations (27,28). *Emotional boundaries* was another important subcategory. Healthcare providers, including EMTs, often witness traumatic events in their line of work (29). Establishing and maintaining emotional boundaries is crucial to prevent burnout and maintain professionalism while delivering care (1). This study demonstrated the importance of emotional boundaries as a coping mechanism and self-care strategy, which is consistent with existing research highlighting the importance of emotion regulation in healthcare settings (30).

Privacy and confidentiality formed the third subcategory of *professional conduct*. Maintaining patient privacy and confidentiality is a fundamental requirement for ethical healthcare (31). In the present study, EMTs emphasized the importance of safeguarding sensitive patient information and limiting its disclosure to those who need to know. These findings are consistent with ethical

and legal standards that prioritize patient privacy and confidentiality in healthcare (3,32,33). Comparing our findings with those of other studies, we found that the challenges healthcare providers face in sustaining their professional behaviors are consistent. The complexity of two-way relationships, emotional boundaries, and privacy and confidentiality are common themes across healthcare settings. Nevertheless, the specific manifestations and contextual influences may differ because of the unique characteristics of EMS and the dynamics of the healthcare systems in which they operate.

Communication and consent play a crucial role in ethical healthcare, and this category explored the challenges associated with effective patient communication, overcoming language barriers, delivering distressing news sensitively, and obtaining informed consent in emergency medical situations. The subcategory of *breaking bad news* emerged as a significant challenge in this study. EMTs emphasized that delivering distressing news was among the most difficult tasks they faced. They stressed the need to strike a balance between honesty and empathy while conveying the news sensitively. This finding aligns with prior research emphasizing the significance of compassionate and clear communication when delivering difficult news to patients and their families (34-36). The current study additionally identified language barriers as a significant challenge to communication in emergency medical situations. The participants highlighted that language barriers can impede effective communication, particularly in urgent scenarios. They emphasized the importance of utilizing interpreters or employing nonverbal communication techniques to ensure patients comprehend their condition and treatment choices. These findings align with prior research that underscores the influence of language barriers on healthcare communication and emphasizes the necessity of employing culturally sensitive approaches to communication (37). The *informed consent* subcategory brought attention to the challenges EMTs encounter when seeking informed consent in emergency situations. The participants recognized the critical nature of obtaining informed consent but acknowledged the difficulties arising from time constraints and the urgency of the situation. They stressed the significance of providing clear explanations and involving patients to the fullest extent possible in the decision-making process. These findings align with previous studies that acknowledge the challenges associated with obtaining informed consent in emergency situations and emphasize the importance of efficient processes and effective communication strategies (3,33).

The findings of the present study align with previous research and underscore recurring themes concerning communication and consent challenges in emergency medical situations. Language barriers and difficulties in delivering distressing news are commonly encountered

by healthcare providers across different medical settings. The distinct dynamics of EMS further compound the complexity of communication and consent. Future research could explore potential interventions and strategies aimed at enhancing communication, addressing language barriers, and facilitating the informed consent process in EMS.

Ethical training and support encompass the necessity for comprehensive training and resources to effectively tackle ethical challenges. This category explored concerns related to insufficient training, the significance of support mechanisms like mentors or ethics committees, and coping strategies for addressing moral issues. The subcategory of *inadequate training* emerged as a critical finding in this study. EMTs expressed limited training in handling the ethical dilemmas they encounter in their work. They stressed the need for comprehensive ethical training to enhance their decision-making abilities. This finding aligns with prior research emphasizing the importance of ethical training for healthcare professionals and the necessity of ongoing education in addressing ethical concerns (38,39). *Lack of support* emerged as a significant concern among participants. They highlighted the absence of support when confronted with ethical challenges, emphasizing the need for access to mentors or ethics committees that can offer valuable guidance and help alleviate moral distress. This finding aligns with prior research emphasizing the importance of healthcare support systems in addressing ethical issues and facilitating ethical decision-making (8,40).

Coping with moral problems was another subcategory which revealed instances where EMTs faced ethical dilemmas conflicting with their personal values. They employed coping strategies such as self-reflection, seeking peer support, and finding a safe space for discussing their experiences. These coping mechanisms align with prior research acknowledging the influence of moral distress on healthcare professionals and underscoring the value of self-care and support systems in managing moral distress (41,42). The findings of the current study align with previous research, emphasizing the widespread recognition of the significance of ethical training and support in healthcare professions. The challenges faced by EMTs, including insufficient training, lack of support, and moral distress, highlight systemic issues in healthcare that extend beyond the scope of this study. Future research could concentrate on investigating and evaluating interventions aimed at enhancing ethical training, establishing support systems, and facilitating effective coping mechanisms for healthcare professionals in EMS.

Organizational challenges significantly influence ethical decision-making in EMS. This category explored challenges such as workload, time constraints, limited resources, and the influence of organizational culture on ethical practices. *Workload and time pressure* emerged as

a key finding in this study. EMTs reported experiencing high workload and time pressure, which affected their ability to deliver optimal care. They expressed concerns about the potential impact on patient care and ethical considerations. These findings align with previous research highlighting the effects of high workload and time pressure on ethical decision-making and healthcare professionals' ability to provide quality care (43,44). *Limited resources* emerged as a significant concern among the participants. They expressed apprehension regarding insufficient equipment and staff shortages, which hindered their capacity to deliver high-quality care. Balancing patients' needs in the context of limited resources posed an ethical challenge. This finding is consistent with prior research highlighting the ethical dilemmas arising from resource scarcity and the importance of equitable resource allocation in EMS (7,8,45).

The role of *organizational culture*, as another identified subcategory, was highlighted in shaping the ethical behavior of EMTs. The participants emphasized how organizational culture influences their work environment and ethical behavior. They noted that an ethical culture that emphasizes open communication and prioritizes ethical behavior can enable them to handle complex situations with integrity. This finding is consistent with previous studies that highlight the importance of organizational culture in promoting ethical behavior and creating an ethical climate in healthcare organizations (3,46). The findings of the present study, consistent with those of the previous studies, underscore the influence of organizational challenges on ethical decision-making in EMS. High workload, time pressure, limited resources, and organizational culture are well-documented concerns. Future research can explore interventions and strategies to address these challenges and foster a supportive, ethical work environment for EMTs.

These findings hold significant implications for EMS practice and policy development. They emphasize the need for comprehensive ethical education and support for EMTs, covering decision-making, conflicts of interest, resource allocation, and end-of-life care. Enhancing professional behaviors, such as managing dual relationships, setting emotional boundaries, and upholding privacy and confidentiality, is crucial for maintaining care integrity and effectiveness.

The study has limitations to consider. Firstly, the sample size was limited to EMTs from a single province, potentially limiting generalizability. Secondly, reliance on self-reporting may introduce recall and social desirability bias. Future studies should include more diverse EMT samples from different regions to enhance generalizability. Additionally, integrating quantitative methods, conducting longitudinal studies, and comparing experiences in various healthcare settings could deepen understanding of ethical challenges in EMS. Further

research should evaluate interventions or educational programs aimed at addressing these challenges and improving ethical practices and patient care.

Conclusion
This qualitative study explored the ethical challenges faced by EMTs and provided valuable insight into their experiences and viewpoints. The findings contribute to a better understanding of the ethical intricacies of emergency care and can inform recommendations and training programs that assist professionals in ethical decision-making. By addressing these challenges, ethical standards in emergency medicine and quality of care can be improved, ultimately benefiting both patients and healthcare providers.

Authors' Contribution
Conceptualization: Mohammad Parvaresh-Masoud, Mohsen Rezaei Aderyani, Hojjat Farahmandnia.
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Competing Interests
The authors declare that they have no conflict of interest.

Ethical Approval
This study was approved by the Ethics Committee of the Qom University of Medical Sciences (IR.MUQ. REC.1398.146)

References
1. Torabi M, Borhani F, Abbaszadeh A, Atashzadeh-Shoorideh F. Experiences of pre-hospital emergency medical personnel in ethical decision-making: a qualitative study. BMC Med Ethics. 2018;19(1):95. doi: 10.1186/s12910-018-0334-x.
2. Markwell A, Mitchell R, Wright AL, Brown AF. Clinical and ethical challenges for emergency departments during communicable disease outbreaks: can lessons from Ebola virus disease be applied to the COVID-19 pandemic? Emerg Med Australas. 2020;32(3):520-4. doi: 10.1111/1742-6723.13514.
3. Bruun H, Milling L, Mikkelsen S, Huniche L. Ethical challenges

experienced by prehospital emergency personnel: a practice-based model of analysis. BMC Med Ethics. 2022;23(1):80. doi: 10.1186/s12910-022-00821-9.

4. Cheraghi F, Yousefzadeh Chosari MR, Beyrami Jam M, Afshari A. Emergency medical technicians' ethical challenges in the prehospital emergency services: a review article. Health in Emergencies and Disasters Quarterly. 2019;5(1):5-12. doi: 10.32598/hdq.5.1.151.2.

5. Erbay H. Some ethical issues in prehospital emergency medicine. Turk J Emerg Med. 2014;14(4):193-8. doi: 10.5505/1304.7361.2014.32656.

6. Becker TK, Gausche-Hill M, Aswegan AL, Baker EF, Bookman KJ, Bradley RN, et al. Ethical challenges in emergency medical services: controversies and recommendations. Prehosp Disaster Med. 2013;28(5):488-97. doi: 10.1017/s1049023x13008728.

7. Ozcan M, Akpinar AS, Birgili F, Beydilli H. Ethical challenges in emergency medical services and ethical reasoning among emergency care providers. Acta Med Mediterr. 2014;30(1):241-7.

8. Parvaresh-Masoud M, Imanipour M, Cheraghi MA. Emergency medical technicians' experiences of the challenges of prehospital care delivery during the COVID-19 pandemic: a qualitative study. Ethiop J Health Sci. 2021;31(6):1115-24. doi: 10.4314/ejhs.v31i6.6.

9. Rady MY, Verheijde JL, McGregor JL. Scientific, legal, and ethical challenges of end-of-life organ procurement in emergency medicine. Resuscitation. 2010;81(9):1069-78. doi: 10.1016/j.resuscitation.2010.05.007.

10. Jiménez-Herrera MF, Axelsson C. Some ethical conflicts in emergency care. Nurs Ethics. 2015;22(5):548-60. doi: 10.1177/0969733014549880.

11. Rao GR, Jena B. Ethical Issues in Emergency Medical Services (EMS)-Experience from India's Integrated EMS System. 2017.

12. Millum J, Beecroft B, Hardcastle TC, Hirshon JM, Hyder AA, Newberry JA, et al. Emergency care research ethics in low-income and middle-income countries. BMJ Glob Health. 2019;4(Suppl 6):e001260. doi: 10.1136/bmjgh-2018-001260.

13. Speziale HS, Streubert HJ, Carpenter DR. Qualitative Research in Nursing: Advancing the Humanistic Imperative. Lippincott Williams & Wilkins; 2011.

14. Sawatsky AP, Ratelle JT, Beckman TJ. Qualitative research methods in medical education. Anesthesiology. 2019;131(1):14-22. doi: 10.1097/aln.0000000000002728.

15. Graneheim UH, Lundman B. Qualitative content analysis in nursing research: concepts, procedures and measures to achieve trustworthiness. Nurse Educ Today. 2004;24(2):105-12. doi: 10.1016/j.nedt.2003.10.001.

16. Polit DF. Essentials of Nursing Research. Wolters Kluwer Health/Lippincott Williams & Wilkins; 2010.

17. Shearer K, Thomas M, Signal T. Perceptions of ethical dilemmas in Australian paramedicine. International Paramedic Practice. 2021;11(3):67-77. doi: 10.12968/ippr.2021.11.3.67.

18. Halter M, Vernon S, Snooks H, Porter A, Close J, Moore F, et al. Complexity of the decision-making process of ambulance staff for assessment and referral of older people who have fallen: a qualitative study. Emerg Med J. 2011;28(1):44-50. doi: 10.1136/emj.2009.079566.

19. Al-Azri NH. How to think like an emergency care provider: a conceptual mental model for decision making in emergency care. Int J Emerg Med. 2020;13(1):17. doi: 10.1186/s12245-020-00274-0.

20. Field MJ, Lo B. Conflict of Interest in Medical Research, Education, and Practice. Washington, DC: National Academies Press (US); 2009.

21. Khan M, Rahman-Shepherd A, Bory S, Chhorn S, Durrance-Bagale A, Hasan R, et al. How conflicts of interest hinder effective regulation of healthcare: an analysis of antimicrobial use regulation in Cambodia, Indonesia and Pakistan. BMJ Glob Health. 2022;7(5). doi: 10.1136/bmjgh-2022-008596.

22. Traversy G, Barnieh L, Akl EA, Allan GM, Brouwers M, Ganache I, et al. Managing conflicts of interest in the development of health guidelines. CMAJ. 2021;193(2):E49-54. doi: 10.1503/cmaj.200651.

23. Fink NE. Conflicts of interest and an approach to managing them. EJIFCC. 2020;31(4):292-301.

24. Dees RH, Herington J, Chiafery M, Shand JC, D'Angio CT, Ching CL, et al. The ethics of implementing emergency resource allocation protocols. J Clin Ethics. 2023;34(1):58-68. doi: 10.1086/723323.

25. Waldrop DP, Clemency B, Lindstrom HA, Clemency Cordes C. "We are strangers walking into their life-changing event": how prehospital providers manage emergency calls at the end of life. J Pain Symptom Manage. 2015;50(3):328-34. doi: 10.1016/j.jpainsymman.2015.03.001.

26. Mateo CM, Williams DR. Addressing bias and reducing discrimination: the professional responsibility of health care providers. Acad Med. 2020;95(12S):S5-10. doi: 10.1097/acm.0000000000003683.

27. Baca M. Professional boundaries and dual relationships in clinical practice. J Nurse Pract. 2011;7(3):195-200. doi: 10.1016/j.nurpra.2010.10.003.

28. Zoch G, Bächmann A-C, Vicari B. Who cares when care closes? Care-arrangements and parental working conditions during the COVID-19 pandemic in Germany. Eur Soc. 2021;23(Suppl 1):S576-88. doi: 10.1080/14616696.2020.1832700.

29. Johanna Z, Elin V, Mats H, Henrik A, Jonas A. Nurses' experiences of encountering patients with mental illness in prehospital emergency care - a qualitative interview study. BMC Nurs. 2022;21(1):89. doi: 10.1186/s12912-022-00868-4.

30. Jackson-Koku G, Grime P. Emotion regulation and burnout in doctors: a systematic review. Occup Med (Lond). 2019;69(1):9-21. doi: 10.1093/occmed/kqz004.

31. Dickerson JE. Privacy, confidentiality, and security of healthcare information. Anaesth Intensive Care Med. 2022;23(11):740-3. doi: 10.1016/j.mpaic.2022.08.014.

32. Mohammadi F, Hatami M, Rezapour-Nasrabad R, Beygi N, Ghasemi A, Fereidouni Z, et al. A study of pre-hospital emergency care personnel's perception of ethical and clinical caring challenges in the field: a qualitative study. Rev Latinoam Hiperte. 2021;16(1):28-38. doi: 10.5281/zenodo.5103027.

33. Bijani M, Mohammadi F, Hatami M. A study of pre-hospital emergency care personnel's perception of ethical dilemmas in the field: a qualitative study. Res Sq [Preprint]. 19 June, 2020. Available from: https://www.researchsquare.com/article/rs-27625/v1.

34. Maranna S. Educating sonographers in attributes of "breaking bad news" to foster positive emotional well-being. Sonography. 2019;6(4):178-90. doi: 10.1002/sono.12188.

35. Myall M, Rowsell A, Lund S, Turnbull J, Arber M, Crouch R, et al. Death and dying in prehospital care: what are the experiences and issues for prehospital practitioners, families and bystanders? A scoping review. BMJ Open. 2020;10(9):e036925. doi: 10.1136/bmjopen-2020-036925.

36. Rasmus P, Kozłowska E, Robaczyńska K, Pękala K, Timler D, Lipert A. Evaluation of emergency medical services staff knowledge in breaking bad news to patients. J Int Med Res. 2020;48(6):0300060520918699. doi: 10.1177/0300060520918699.

37. Al Shamsi H, Almutairi AG, Al Mashrafi S, Al Kalbani T. Implications of language barriers for healthcare: a systematic review. Oman Med J. 2020;35(2):e122. doi: 10.5001/

omj.2020.40.

38. Whitehead PB, Herbertson RK, Hamric AB, Epstein EG, Fisher JM. Moral distress among healthcare professionals: report of an institution-wide survey. J Nurs Scholarsh. 2015;47(2):117-25. doi: 10.1111/jnu.12115.

39. Leuter C, Petrucci C, Mattei A, Tabassi G, Lancia L. Ethical difficulties in nursing, educational needs and attitudes about using ethics resources. Nurs Ethics. 2013;20(3):348-58. doi: 10.1177/0969733012455565.

40. Ignatowicz A, Slowther AM, Bassford C, Griffiths F, Johnson S, Rees K. Evaluating interventions to improve ethical decision making in clinical practice: a review of the literature and reflections on the challenges posed. J Med Ethics. 2023;49(2):136-42. doi: 10.1136/medethics-2021-107966.

41. Lievrouw A, Vanheule S, Deveugele M, Vos M, Pattyn P, Belle V, et al. Coping with moral distress in oncology practice: nurse and physician strategies. Oncol Nurs Forum. 2016;43(4):505-12. doi: 10.1188/16.Onf.505-512.

42. Godshall M. Coping with moral distress during COVID-19. Nursing. 2021;51(2):55-8. doi: 10.1097/01.

43. Valizadeh L, Zamanzadeh V, Dewar B, Rahmani A, Ghafourifard M. Nurse's perceptions of organisational barriers to delivering compassionate care: a qualitative study. Nurs Ethics. 2018;25(5):580-90. doi: 10.1177/0969733016660881.

44. Linzer M, Poplau S. Eliminating burnout and moral injury: Bolder steps required. EClinicalMedicine. 2021;39:101090. doi: 10.1016/j.eclinm.2021.101090.

45. Rubio O, Estella A, Cabre L, Saralegui-Reta I, Martin MC, Zapata L, et al. [Ethical recommendations for a difficult decision-making in intensive care units due to the exceptional situation of crisis by the COVID-19 pandemia: a rapid review & consensus of experts]. Med Intensiva (Engl Ed). 2020;44(7):439-45. doi: 10.1016/j.medine.2020.06.002. [Spanish].

46. Ozdoba P, Dziurka M, Pilewska-Kozak A, Dobrowolska B. Hospital ethical climate and job satisfaction among nurses: a scoping review. Int J Environ Res Public Health. 2022;19(8):4554. doi: 10.3390/ijerph19084554.