

A Study on the Educational Content of Ethics in the Paramedic Training Curriculum: Focusing on the Initial Offering of “Paramedical Ethics”

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Abstract

This study aimed to empirically evaluate the educational effectiveness and future challenges of a newly established course, “Paramedical Ethics”, for undergraduate students in the paramedic training curriculum, in response to the contemporary issues of the increasing sophistication and broadening scope of paramedics’ responsibilities. This course was structured to emphasize gradual, participatory learning, including the study of the fundamental principles of medical ethics, case studies of ethical issues specific to emergency and disaster medicine, group discussions, and role-playing. The results of a student survey conducted after the course completion showed a high level of self-evaluation across all achievement goals, particularly for decision-making support regarding ethical issues. Furthermore, the results of a dependent samples analysis of variance indicated no statistically significant difference in the level of achievement across the ten target items, suggesting that the course structure was homogeneous and effective for all learning content. Qualitative free-response comments confirmed both a frank recognition of ethical conflict and difficulty, such as, “It was very difficult to think about ethics, which has no single correct answer,” and a positive professional learning motivation, such as, “I thought this subject would be very useful in my future career”. It is considered that this recognition of “difficulty” is the result of students’ Ethical Sensitivity being awakened, and their experiencing the challenge of applying theory to practice, which involves complex interpersonal communication, rather than merely acquiring knowledge. These results allow for the evaluation that “Paramedical Ethics” was highly effective in improving students’ ethical literacy. Moving forward, the challenge will be to strengthen simulation education using complex dilemma cases that include time constraints and interprofessional collaboration, in order to overcome the “difficulty” felt by the students and elevate theory into practical ethical judgment. Establishing instructional methods that en-

hance self-efficacy in ethical practice as professionals, commensurate with the responsibilities of paramedics, is essential for the qualitative deepening of future ethics education.

Keywords

Paramedical Ethics, Paramedic Training, Undergraduate Curriculum

1. Introduction

The most crucial role of a paramedic is to prioritize the attempt at resuscitation for the injured or sick, provide rapid initial response, and subsequently ensure the smooth transport of the patient to the optimal emergency medical facility (Kubota, 2021a; Ministry of Health, Labour and Welfare, n.d.). Since the establishment of the paramedic system in Japan, the scope of practice has continuously expanded (Kubota, 2021b). Specifically, advanced procedures such as defibrillation without a physician's instruction, endotracheal intubation for critically ill patients, administration of epinephrine (adrenaline) during cardiopulmonary arrest, and blood glucose measurement and dextrose solution administration for hypoglycemic patients have become progressively possible, leading to a remarkable increase in the sophistication and specialization of their functional role. Furthermore, revisions to the Paramedic Law in Japan have made it possible for paramedics to perform duties within a hospital setting (Ministry of Health, Labour and Welfare, n.d.).

Braithwaite & Braithwaite (2022) state that when experienced paramedics confront ethical decision-making, they utilize integrated principles of empathy, beneficence, and accountability, but they had difficulty articulating these as separate or distinct principles. Furthermore, through personal reflection, they considered the patient's dignity and family's emotions when navigating ethical dilemmas. This suggests that paramedics likely rely on their accumulated experience to perform their duties when facing difficult ethical decision-making situations.

While this expansion of the scope of procedures enhances the expertise and autonomy of paramedics in the field, it also increases the weight of their responsibility in emergency situations and during the transport process. Campbell et al. state that the paramedic profession has increased in complexity across the affective, behavioral, and cognitive domains of practice (Campbell et al., 2024). Especially, it is thought that the number of situations demanding rapid judgment and action has significantly increased in the process of pursuing the ultimate goal of saving lives, often requiring a balance between respecting the patient's autonomy and the ethical principle of providing the best interest (paternalism).

In recent years, there has been a significant change in the scope of practice, with the promotion of paramedic employment within hospitals. This situation has expanded the scenes of paramedic activity beyond the limited time before hospital

arrival via ambulance to include confronting patients and their families in environments such as emergency and critical care centers and Intensive Care Units (ICUs) within hospitals (Kubota & Suzuki, 2021; Kubota, 2025; Kubota & Suzuki, 2022a, 2022b). This expansion of the scope of practice implies that the ethical aspects with which paramedics are involved extend beyond the traditional framework of emergency transport to encompass ethics related to broader medical continuity, namely the holistic care of patients and their families.

The field of emergency medical services is characterized by the extremely rapid pace of medical practice. In time-critical situations, there is often an urgent need to make extremely heavy ethical decisions, such as the continuation or cessation of future treatment, or the judgment for a “Black Tag (deceased or unlikely to be saved)” in triage during a mass casualty incident. Paramedics are one of the professions constantly confronting many such ethical dilemmas. To appropriately address these situations, particularly in hospital activities, the necessity for close collaboration with various professionals such as nurses, physicians, and social workers increases. As a result, the role that paramedics should and are expected to play in hospital ethics conferences and case review meetings is anticipated to grow further.

Specifically, the system of providing psychological and practical support to the patient’s family even before hospital arrival is a practice that Kubota suggests paramedics need to implement, and education for this is considered necessary (Kubota, 2025). Regarding ethical confrontations, Suzuki et al. have revealed that paramedics experience ambiguity in information regarding DNAR (Do Not Attempt Resuscitation) and the refusal of life-prolonging measures, and that DNAR is not thoroughly communicated to staff in nursing homes (Suzuki, 2015). Furthermore, Nozawa et al. have revealed that paramedics find the most significant difficulty in responding to guardians (family) and managing their own psychological burden during pediatric CPA (Cardiopulmonary Arrest) cases (Nozawa et al., 2016). Also, in their activities within the hospital, the involvement of paramedics, with their unique perspective of prehospital emergency medicine, offers the advantage over other professions of providing continuity of support between the prehospital and in-hospital phases, such as grief care for the families of patients confirmed deceased immediately after transport, or assistance with prognosis explanations for the families of patients who survived (Kubota, 2021c; Kubota & Nemoto, 2021).

Considering the increasing sophistication and broadening scope of paramedics’ responsibilities, systematic education regarding the response to and support for complex ethical issues involving patients (the sick/injured) and their families is considered an extremely urgent task for students studying paramedical science. However, the current status is that the curriculum and teaching methods for ethics education are not yet sufficiently established in paramedic training programs (Kubota & Suzuki, 2022a). There is a growing need in the educational field to cultivate ethical judgment and sensitivity, and the utility of teaching professional ethics in the undergraduate curriculum is highly anticipated.

In a literature review by Kubota concerning the future educational and research content in Japanese university paramedic training programs in response to the increasing sophistication and broadening scope of paramedic work, it is shown that paramedics perform their duties in ambiguous situations regarding DNAR and life-prolonging measures as recognized by nursing homes and families when an emergency call is made. It is also confirmed that paramedics operate amidst anxiety and conflict when facing unfamiliar pediatric cardiopulmonary arrest cases and their families, and they recognize the difficulty of not being able to spend sufficient time with guardians while performing pediatric cardiopulmonary resuscitation (Kubota, 2021a, 2021b, 2021c; Kubota & Nemoto, 2021; Kubota & Suzuki, 2021; Kubota & Suzuki, 2022a, 2022b). Furthermore, Kubota's literature review points out that paramedics recognize the necessity of learning about grief care and the need to improve communication skills with patients and families (Kubota, 2021c). In short, Japanese paramedics consider ethical issues to be difficult and perceive their daily work as challenging. Simultaneously, they desire to acquire the skills necessary to resolve ethical problems.

Based on this background, the Department of Paramedical Science at this university first offered a course subject, "Paramedical Ethics", specialized in the professional ethical content practiced by paramedics, for third-year students in the first semester of the 2024 academic year. The objective of this study is to obtain empirical insights into the deepening of learning about ethics in the emergency medical services field by surveying the changes in knowledge, awareness of issues, and perception regarding ethics after the course completion for the third-year students of the Department of Paramedical Science who took the course "Paramedical Ethics" in the first semester. Obtaining these insights will provide suggestions for specific improvements in the course's achievement goals, instructional methods, and course plan, and will serve as a critical foundation for proposing the future direction of ethics education in paramedic training.

2. Research Objective

The objective is to evaluate the deepening of knowledge and perception regarding ethics in the emergency medical services field for the newly established course subject "Paramedical Ethics" targeted at students in the paramedic training curriculum. The goal is to evaluate its educational content and learning outcomes, and to obtain fundamental knowledge concerning the ideal state of ethics education in university paramedic training programs.

3. Research Methods

3.1. Participants

The participants were a total of 42 third-year undergraduate students (number of registered students) belonging to the Department of Paramedical Science at this university. The target students took the course "Paramedical Ethics" in the first semester of the 2024 academic year.

3.2. Course Overview

The course provides an overview of ethics, bioethics, ethical principles, and morality. It overviews ethics in disaster and emergency medicine. Based on specific case examples, students deepen their learning by considering the ethical aspects of issues concerning life. Students deepen their learning so they can express their own sense of ethics when faced with ethical issues, and are able to perform necessary considerations and practices, such as decision-making support for ethical issues.

The course overviews the role of protecting the rights of patients (the sick/injured) and their families, and the role of ethical coordination carried out by paramedics in interprofessional teams, in resolving ethical issues and conflicts faced by patients (the sick/injured) and their families. Students deepen their self-awareness so that they can proceed to “Ambulance Ride-Along Practical Training” and “Clinical Practical Training”, which begin after the completion of this course, after organizing the necessary ethical perspectives for a future paramedic.

3.3. Course Content

The course “Paramedical Ethics” consisted of a total of 14 sessions of lectures and exercises. Gradual learning activities were implemented, ranging from the basics of medical ethics to the consideration of applied ethical issues in emergency and disaster medicine, and practical role-playing (Refer to **Table 1**).

Table 1. Course content of “paramedical ethics”.

Session	Main Theme	Learning Activities	Course Unit Achievement Goal
1	Overview of Ethics, Ethics in Medicine	Lecture	Can explain ethics and ethics in medicine.
2	Ethical Issues in Emergency and Disaster Medicine	Lecture	Can explain ethical issues in emergency and disaster medicine.
3	Knowledge of Ethics in Emergency and Disaster Medicine	Lecture	Can provide an overview of knowledge regarding ethics in emergency and disaster medicine.
4	Consideration of Ethical Issues in Emergency and Disaster Medicine through Case Studies	Lecture, Assignment Presentation	Can consider ethical issues in emergency and disaster medicine through case studies.
5	Research on Ethics in Emergency and Disaster Medicine 1	Group Discussion	Can deepen understanding by sharing and discussing ethical issues in emergency and disaster medicine with group members.

Continued

6	Research on Ethics in Emergency and Disaster Medicine 2	Group Discussion	(Same as Session 5)
7	Research on Ethics in Emergency and Disaster Medicine 3	Group Discussion	(Same as Session 5)
8	Research on Ethics in Emergency and Disaster Medicine 4	Group Discussion, Research Results Presentation, Full-Class Discussion	Can present the results of group discussions and hold a full-class discussion.
9	Research on Ethics in Emergency and Disaster Medicine 5	Group Discussion Results Presentation, Full-Class Discussion	(Same as Session 8)
10	Communication Regarding Ethics in Emergency and Disaster Medicine 1	Role-playing, Scenario Creation	Can create a role-playing scenario in a group.
11	Communication Regarding Ethics in Emergency and Disaster Medicine 2	Role-playing, Scenario Creation	(Same as Session 10)
12	Communication Regarding Ethics in Emergency and Disaster Medicine 3	Role-playing Implementation, Discussion	Can present the scenario created in the group and discuss the content.
13	View of Emergency and Life Saving in Emergency and Disaster Medicine Ethics 1	Group Discussion	Conduct group discussion about one's own view of emergency and life saving.
14	View of Emergency and Life Saving in Emergency and Disaster Medicine Ethics 2	Group Discussion Results Presentation, Full-Class Discussion	Can present the results of group discussions about the role of paramedics and the view of emergency and life saving, and hold a full-class discussion among all students.

4. Research Method

4.1. Questionnaire Survey

A survey was conducted based on the items listed as the achievement goals for the course subject "Paramedical Ethics" in the Department of Paramedical Science at this university.

This survey was conducted immediately after the final session (Session 14) of the course by distributing a paper-based, anonymous, self-administered questionnaire. Before the survey, the research purpose and the use of data were verbally explained, and the voluntary and anonymous nature of the students' responses

was ensured. Based on the course achievement goals, the questionnaire consisted of the following ten affirmative questions (Q1 to Q10) and one free-response item (Q11). A 5-point Likert scale (5: Strongly Agree, 4: Agree, 3: Neither Agree nor Disagree, 2: Disagree, 1: Strongly Disagree) was used for evaluation (Refer to **Table 2**).

Table 2. Survey question items.

Question No.	Question Content
1	I was able to explain ethics and ethics in medicine.
2	I was able to explain ethical issues in emergency and disaster medicine.
3	I was able to provide an overview of knowledge regarding ethics in emergency and disaster medicine.
4	I was able to consider ethical issues in emergency and disaster medicine through case studies.
5	I was able to consider the state of communication and how to approach ethical issues by viewing emergency and disaster medicine from an ethical perspective and through role-playing.
6	I was able to consider the role of the paramedic in emergency and disaster medicine ethics for myself.
7	I was able to explain ethical coordination and the ethical coordination performed by a paramedic.
8	I was able to explain decision-making support for ethical issues.
9	I was able to construct my own view of emergency and life saving in emergency and disaster medicine ethics.
10	I was able to deepen my understanding by sharing and discussing ethics in emergency and disaster medicine with group members.
11	Please write your free thoughts and impressions about the course subject "Paramedical Ethics".

4.2. Analysis Methods

The options for the survey responses from lectures, group work, group presentations, and full-class discussions were scored on a 5-point scale (Strongly Agree: 5 to Disagree: 1). For quantitative data (Q1 to Q10), the mean (M) and standard deviation (SD) of each item were calculated, and descriptive statistics were used. Furthermore, a dependent samples analysis of variance was used to confirm the statistical significance of the differences between the results of each item in the survey. For qualitative data (supplementary descriptions for each question and Q11), all descriptions were extracted, organized into tables for each question. To enhance the methodological transparency of the interpretive process, these free-response comments underwent qualitative examination wherein key insights were systematically identified and summarized based on recurring patterns and salient

phrases evident in the raw data. Microsoft Excel 2024 for Windows was used for statistical analysis.

5. Ethical Considerations

5.1. Ethical Considerations for Research Participants

The purpose, method, content, and the voluntary nature of cooperation were explained to the participants verbally and in writing. It was explained that the submission of the questionnaire implies consent to participate in the research. It was guaranteed and explained that participation in the research is completely voluntary, that no disadvantage would result from expressing the intention to participate in the survey, and that no harm would come from choosing not to cooperate. Participants were also informed that they could withdraw from the study at any time. It was explained that the questionnaire would be conducted anonymously.

5.2. Storage and Disposal Method for Research Materials

Information obtained from the questionnaires was anonymized so that individuals could not be identified and was stored on a password-protected USB drive held by the principal investigator. After being stored for 10 years following the completion of the research, the data will be securely destroyed so that it cannot be recovered. It was explained that the research results would be published only through academic presentations and professional journals, and that the data would not be used for purposes other than research. It was explained that care would be taken to ensure that individuals are not identified during publication.

5.3. Method for Obtaining Understanding and Consent from Research Participants

On the last day of the course subject “Paramedical Ethics”, the plan for conducting the survey regarding this course was explained to the third-year students. This explanation included the purpose of the survey, the anonymous collection method, and the associated ethical considerations.

5.4. Preventive Measures against Personal Disadvantages or Risks Arising from the Research

Consent was obtained that participation in this research and answering the questionnaire would not affect the course grade. Students were explained that they would not suffer any disadvantage if they did not submit the questionnaire. To ensure this, it was explained that the questionnaire should be submitted after the course grades had been finalized. The highest level of student anonymity was ensured by having the principal investigator not handle the students’ completed questionnaires during collection. Recognizing that the time required to answer the questionnaire could be a burden, the questionnaire was primarily designed using a multiple-choice format to make it easy for students to answer. No other potential disadvantages or risks were anticipated.

5.5. Anticipated Contributions to Medicine and Society

The results of the questionnaire are expected to contribute to medicine by providing valuable insights on how to better educate students who plan to become paramedics in the future. Paramedics currently working in the field face ethical challenges, and the learning needs in this area are recognized. By investigating the learning outcomes of students in the “Paramedical Ethics” course, this research is expected to help future paramedics deepen their understanding of ethics and better support patients and their families after graduation. This brings important contributions to the field of emergency medical services. Furthermore, the research results regarding what students learned and what they believe needs improvement can be utilized to strengthen the curriculum. This will better prepare future paramedics for their role in society and, in turn, lead to the improvement of educational practices for those entering this important profession.

5.6. Ethical Approval

This study was conducted based on the Declaration of Helsinki and has received approval from the Research Ethics Review Committee of Suzuka University of Medical Science (Approval No.: 507).

6. Results

6.1. Results of the Multiple-Choice Survey Responses (Self-Evaluation of Course Achievement Goals)

The survey was completed by 36 respondents (response rate: 85.71%), with 34 valid responses (valid response rate: 94.44%).

The highest rated item was “I was able to deepen my understanding of ethics in emergency and disaster medicine by sharing with and discussing it with my group members” (Q8, $M = 4.41$) (See **Table 3**).

Table 3. Student self-evaluation regarding course achievement goals (5-point scale: $N = 36$).

Question No.	Question Item Content	Mean	SD
1	I was able to explain ethics and ethics in medicine.	4.32	± 0.48
2	I was able to explain ethical issues in emergency and disaster medicine.	4.29	± 0.52
3	I was able to provide an overview of knowledge regarding ethics in emergency and disaster medicine.	4.24	± 0.55
4	I was able to consider ethical issues in emergency and disaster medicine through case studies.	4.35	± 0.54
5	I was able to consider the state of communication and how to approach ethical issues by viewing emergency and disaster medicine from an ethical perspective and through role-playing.	4.27	± 0.51

Continued

6	I was able to consider the role of the paramedic in emergency and disaster medicine ethics for myself.	4.21	±0.59
7	I was able to explain ethical coordination and the ethical coordination performed by a paramedic.	4.06	±0.65
8	I was able to explain decision-making support for ethical issues.	4.26	±0.50
9	I was able to construct my own view of emergency and life saving in emergency and disaster medicine ethics.	4.27	±0.49
10	I was able to deepen my understanding by sharing and discussing ethics in emergency and disaster medicine with group members.	4.41	±0.50

To test for statistical differences among the mean evaluations of the 10 items, a one-way repeated measures analysis of variance (ANOVA) was conducted. The results showed no statistically significant difference among the questionnaire items. This result indicates that there is no difference in the students' self-assessment regarding the achievement level of the 10 learning objectives (See **Table 4**).

Table 4. Results of dependent samples analysis of variance for student self-evaluation regarding course achievement goals (Number of Questions 10, N = 36).

Source of Variation	Degrees of Freedom	Observed Variance Ratio	<i>P</i> -value
Question	9	1.085	0.373

6.2. Results of Descriptive Free Responses

Free descriptions were requested for each questionnaire item. **Table 5** shows the results.

Table 5. Qualitative evaluation (Free Descriptions—Q1, 2, 4, 5, 6, 11).

Free Description Content for the Question
<p>Q1 I was able to explain ethics and ethics in medicine.</p> <ul style="list-style-type: none"> • It was difficult to understand ethics. • I felt that ethical views differ from person to person. • It is difficult to think about the ethics of the other party.
<p>Q2 I was able to explain ethical issues in emergency and disaster medicine.</p> <ul style="list-style-type: none"> • There are many issues immediately after the occurrence of a disaster.
<p>Q4 I was able to consider ethical issues in emergency and disaster medicine through case studies.</p> <ul style="list-style-type: none"> • I felt that I must consider the feelings of the concerned parties through case studies and be able to respond in the event of a disaster. • The conference was extremely difficult.

Continued

Q5 I was able to consider the state of communication and how to approach ethical issues by viewing emergency and disaster medicine from an ethical perspective and through role-playing.

- It is difficult to think about something and then actually interpret and perform role-playing.

Q6 I was able to consider the role of the paramedic in emergency and disaster medicine ethics for myself.

- There are various roles.

Q11 Please write your free thoughts and impressions about the course subject “Paramedical Ethics”.

- I didn’t think “ethics” in medicine was this profound. I thought this subject would be very useful in my future career.
- I was able to learn deeply about ethics.
- It was difficult, but I enjoyed discussing and thinking with friends.
- I would like to study more if there is an opportunity to study more deeply.
- I thought that ethics is a difficult problem with no correct answer, but I want to deepen my learning so I can have a high sense of ethics in my own way.
- I intend to make use of this going forward.
- It was difficult content.
- I think ethical issues differ depending on the disaster. That’s why I learned that information sharing and listening to the will of the family are important.
- I was able to learn about paramedical ethics.
- It was very difficult to think about ethics, which has no single correct answer.

Note: There were no free descriptions for Q3, Q7, Q8, Q9, and Q10.

7. Discussion

The objective of this study was to empirically evaluate the educational effectiveness and future challenges of the newly established course subject, “Paramedical Ethics”, for undergraduate students in the paramedic training curriculum. The results of the student survey conducted after the course completion confirmed that this course was highly effective in improving students’ ethical literacy. This discussion provides a detailed analysis of the educational effectiveness shown by the quantitative results, the gap between theory and practice suggested by the qualitative student opinions, and challenges and concrete proposals for the qualitative deepening of ethics education for highly specialized professionals.

7.1. Educational Effectiveness of the Course: Homogeneous and High Achievement of All Achievement Goals

The newly established course subject “Paramedical Ethics” can be evaluated as

having achieved its educational goals at a high standard. This success is presumed to be the result of the synergistic effects in all aspects of knowledge, skills, and attitude (perspective), generated by the course structure (Refer to **Table 1**) that emphasized gradual and participatory learning, including basic study of ethical principles, an overview of knowledge regarding ethical issues, and case studies, group discussions, and role-playing, thereby stimulating students' ethical thinking from multiple perspectives.

7.2. Comprehensive Improvement of Ethical Knowledge Acquisition and Application Skills

The results of the survey (N = 36) showed that the mean values of the students' self-assessments ranged from 4.06 to 4.41 across all 10 items, indicating that the course objectives were achieved at a high level by the students (See **Table 3**). This high evaluation suggests that a foundation was established for comprehensive response capabilities to ethical issues, which goes beyond the mere acquisition of knowledge.

Establishment of Basic Theory and the Bridge to Application

Students demonstrated a high level of course achievement in responses to items such as "I was able to explain ethics and ethical theories in medicine" (Q1, M = 4.32) and "I was able to provide an overview of knowledge related to ethics in emergency and disaster medicine" (Q3, M = 4.24). This indicates that a strong theoretical foundation was established within the students for considering the challenges unique to emergency settings involving the sick and injured, their families, and the bereaved (Gun et al., 2025; Shearer et al., 2023).

Furthermore, the acquisition of this foundational knowledge also resulted in high evaluations for the more application-oriented item, "I was able to examine ethical issues in emergency and disaster medicine through case studies" (Q4, M = 4.35). This suggests that instruction designed to convert abstract concepts into concrete decision-making materials was successful.

Campbell et al. state that paramedics can navigate the inherent complexities of emergency services through insightful, reflective practice underpinned by appropriate ethical approaches (Campbell et al., 2024). It is therefore inferred that training in critical ethical thought processes through case analysis contributed to the high self-assessment of their application skills.

7.3. Acquisition of Practical Skills Specific to Paramedics

The achievement level for items concerning practical skills specific to the highly specialized profession of a paramedic is particularly noteworthy given their importance. Especially considering the contemporary trends in emergency medicine—namely, the expansion of the scope of practice and the increase in intra-hospital activities—this high self-assessment regarding the acquisition of these practical skills suggests that the course curriculum is effectively addressing modern needs.

7.3.1. Recognition of the Importance of Decision-Making Support and Acquisition of Ethical Mediation Ability

The item that received the highest rating among all questions was, “I was able to deepen my understanding of ethics in emergency and disaster medicine by sharing with and discussing it with group members” (Q10, M = 4.41). This suggests a strong recognition that support capabilities mediated by ethical “dialogue” are essential professional competencies. Additionally, the high achievement level for Q8, “I was able to explain decision-making support for ethical issues,” implies that students deeply understood the importance of involvement in decision-making processes, particularly concerning end-of-life care and DNAR (Do Not Attempt Resuscitation), and can be evaluated as having built the foundation for ethical coordination skills to address practical difficulties. The high evaluation of Q8 demonstrates that students recognized these expanding responsibilities and internalized the necessity of support through ethical dialogue.

As the activities of paramedics within hospitals are promoted, they are expected to contribute to decision-making support through interprofessional collaboration in hospital ethics conferences and case review meetings by sharing important information, such as the patient’s intentions and family background, which were grasped at the stage prior to hospital transport. Research on ethics targeting nurses, who are fellow medical professionals, states that dialogue in which experiences and thoughts regarding decision-making support are frankly discussed served as an opportunity to promote individual reflection (Hashimoto et al., 2025), and that clinical ethics conferences may lead to improvements in the quality of medical care (Inoue & Umei, 2024). The high evaluation of Q8 indicates that students recognized these expanding responsibilities and internalized the need for support through ethical dialogue (Hashimoto et al., 2025).

7.3.2. Establishment of an Ethical Foundation and Reconstruction of Professional Values

The achievement level for the item, “I was able to construct my own view of emergency medical care (professional identity) concerning ethics in emergency and disaster medicine” (Q9, M = 4.27), suggests that learning went beyond the mere acquisition of ethical principles. It indicates that students were prompted to engage in deep reflection, reconstructing their own professional values (professionalism) from an ethical perspective, and can be evaluated as having a significant impact on their career outlook.

The process of learning the fundamentals of ethics and then linking that knowledge to their role as a paramedic (Q6) and their unique perspective on bioethics (their professional identity/view of emergency care) has a value that is beyond the transmission of mere knowledge. This serves as the mental foundation for taking swift and responsible action based on one’s own ethical principles when faced with an ethical dilemma.

With the expansion of the paramedic scope of practice to include activities within the hospital, the field of activity is no longer limited to the short transport

time but potentially extends to the ethical dimensions of holistic care for the patient and their family. The construction of this “view of emergency care” signifies that students understood the necessity of focusing not only on the technical goal of resuscitation but also on ethical aspects such as patient dignity and grief care for families.

The construction of this professional identity signifies that students understood the necessity of focusing not only on the technical goal of resuscitation but also on ethical aspects such as patient dignity and grief care for families. The achievement in Q9 is considered a result of a proactive learning attitude, wherein students reflected on this role as their own principle of action and sought to establish their professional identity.

7.4. Homogeneity of Learning Outcomes Due to Course Structure

The result of the dependent samples one-way analysis of variance conducted to verify whether there was a statistical difference in the mean values of the 10 evaluation items showed no statistically significant difference among the question items (Observed Variance Ratio 1.085, $P = 0.373$). This homogeneous achievement level objectively supports that the instructional method of this course provided equal and effective learning opportunities across all domains, from basic theory to the deepening of understanding through dialogue and practical application skills, without being biased towards specific learning content or skills (e.g., simple memorization of knowledge). This indicates that the course “Paramedical Ethics” achieved its goal of integratively cultivating ethical thinking skills and practical skills, rather than merely transmitting a single ethical principle. However, it is undeniable that this homogeneously high evaluation may have been influenced by the tendency of responses to conform to socially desirable reactions (a tendency to give higher ratings) due to the use of a self-assessment scale. Since a lack of statistical power is also considered, a future challenge will be to combine objective indicators such as knowledge tests to verify the students’ true achievement level.

7.5. Recognition of the Occupational Difficulty of “Ethics” Suggested by Qualitative Evaluation

The qualitative free descriptions (free descriptions for questions and Q11) clearly showed the students’ frank recognition of the inherent complexity of ethical issues and the challenges that future education must overcome. This is evidence that the success of the education was not limited to knowledge transfer but awakened the students’ ethical sensitivity, making it extremely important data.

7.6. Conflict Caused by “Problems with No Single Correct Answer” and the Awakening of Ethical Sensitivity

Comments from students included “It was very difficult to think about ethics, which has no single correct answer” (Q11) and “It was difficult to understand eth-

ics” (Q1). This recognition of “difficulty” is the result of students deeply and experientially understanding the following inherent characteristics of ethical issues.

Unlike other professional subjects, ethical issues are not ones where one “arrives at a correct answer by applying knowledge,” but always involve a conflict of values (e.g., patient autonomy vs. the duty to save lives) and uncertainty of information (e.g., ambiguity in the expression of DNAR intention). As Erbay points out, there is no formula that can be immediately applied to correct actions or emotions, and the situation specific to the emergency scene, “where every moment counts,” increases this uncertainty to the extreme (Erbay, 2016). This recognition of “difficulty” suggests that students have begun to view ethical problems not merely as an academic topic but as an essential difficulty in performing their duties, which is an extremely positive outcome from an educational perspective. Ethical sensitivity is the ability to recognize that a problem exists and to perceive its complexity and the emotions of the stakeholders, and sophisticated ethical judgment is impossible without this awakening.

The description “I felt that ethical views differ from person to person” (Q1) indicates that students began to recognize the existence of diverse values and to move away from self-centered ethical views through group discussions and role-playing. This recognition serves as the starting point for interprofessional collaboration and listening to patients and families.

7.7. The Gap between Theory and Practice: Difficulty of Application Involving Communication

Regarding specific learning activities, opinions such as “The conference was extremely difficult” (Q4) and “It is difficult to think about something and then actually interpret and perform role-playing” (Q5) were also confirmed. The comment “The conference was extremely difficult” refers specifically to the difficulty experienced when students enacted their own created ethical case scenarios in a role-playing format (Sessions 10 - 12), which required verbalizing knowledge and constructing ethical dialogue under simulated pressure.

This “difficulty” is not merely a lack of knowledge but a difficulty in the stage of applying knowledge, which is particularly evident in situations requiring interpersonal skills. It can be said that students began to recognize that ethical judgment is a sophisticated practical skill that involves emotional labor, not just the logical application of knowledge.

The opinion that “role-playing is difficult” suggests a lack of skill in verbalizing knowledge and constructing ethical dialogue while considering the other party’s emotions and situation.

As Takahashi et al. point out, there are issues regarding a lack of specific explanation from patients and their families, as well as the orientation when speaking and the speed of asking questions (Takahashi et al., 2006). The practical difficulty experienced in this course clearly indicates the need for thorough training in communication skills in future education.

7.8. Backing of Professional and Proactive Learning Motivation for Ethics Education

Simultaneously with the recognition of difficulties mentioned above, an extremely proactive learning motivation regarding the professional utility of ethics education was confirmed, with comments such as “I thought this subject would be very useful in my future career” (Q11) and “I would like to study more if there is an opportunity to study more deeply” (Q11). This strong interest clearly shows that students correctly recognize the increasingly sophisticated and broadening scope of the paramedic’s responsibilities and view the ability to respond to ethical issues as an indispensable element for professional growth and the establishment of professionalism.

The opinion “I want to deepen my learning so I can have a high sense of ethics in my own way” (Q11) indicates that this course instilled in students the recognition that ethical growth is a continuous process and provided a strong motivation for lifelong learning. It can be said that this course did not end with mere knowledge transfer but effectively stimulated the students’ professional identity (Q6) and motivation for ethical growth.

7.9. Challenges and Proposals for Deepening Future Ethics Education

Although the course subject “Paramedical Ethics” can be evaluated as being effective in the basic improvement of students’ ethical literacy, the development of further educational methods is a challenge for overcoming the “difficulty” recognized by students and elevating theory into practical ethical judgment.

7.9.1. Complicating Simulation Involving Ethical Judgment and Introducing Time Constraints

The core of the “difficulty” felt by students (Q11) lies in the challenge of rapid and appropriate response to “problems with no single correct answer”. To overcome this challenge, it is necessary in future education to deepen case studies and role-playing into more realistic and complex ethical dilemmas. Specifically, it is necessary to strengthen training that links theory to rapid practical judgment by introducing role-playing that incorporates factors specific to the emergency scene, such as extreme time constraints and lack of information, for judgments in triage during time-critical situations (e.g., judging a Black Tag) or dialogue with families regarding life-prolonging measures. This is expected to allow students to practice making ethical judgments under the urgency of the scene, thereby enhancing more practical self-efficacy.

7.9.2. Strengthening Interprofessional Collaboration Simulation in Preparation for In-Hospital Activities

With the promotion of paramedics’ in-hospital activities, close collaboration with various professionals such as nurses, physicians, and social workers is indispensable for confronting patients and their families. It is necessary to strengthen training for paramedics to intervene in ethical aspects related to the holistic care of

patients and families from the unique perspective of prehospital emergency medicine in ethics conferences and case review meetings. As Shearer et al. point out, it is necessary to provide opportunities for paramedics to practically learn, along with self-understanding of their own profession, what role each professional should play in ethical dilemmas and how paramedics can contribute (Shearer et al., 2023).

7.9.3. Deepening Family Support and Communication Skills

Ethical judgment is not merely the application of knowledge but heavily depends on the state of communication (Q5). Paramedics need to implement psychological support and technical support for patients (the sick/injured) and their families even before hospital arrival. Furthermore, given the presence of paramedics within hospitals in Japan, it is necessary to continue communication in collaboration with the same and other professions during the series of events immediately after transport and after admission, not limited to before hospital arrival. Communication skills are also necessary in situations such as prognosis explanation support and grief care for families left behind after a patient's death. Ethical issues may arise in these situations, and it is desirable to integrate communication and ethical support to improve skills through role-playing and feedback. It is desirable to focus future education on the techniques of listening and information sharing (Q10) within a limited time.

7.9.4. Continuous Cultivation of Self-Efficacy in Ethical Practice

To support the students' motivation, "I want to deepen my learning so I can have a high sense of ethics in my own way" (Q11), it is necessary to develop instructional methods that clarify the process of applying theory to ethical problems with no single correct answer and enhance the self-efficacy of making the best ethical judgment. The accumulation of successful experiences where ethical conflicts were overcome and the best action was chosen is the key to nurturing this self-efficacy. Since reflection on practice through theoretical approaches is necessary, as Campbell et al. state, it is considered beneficial to repeatedly provide constructive and specific feedback based on ethical principles for the results of students' role-playing and conferences, for example (Campbell et al., 2024).

8. Conclusion

This study concludes that the newly established course subject "Paramedical Ethics" successfully provided systematic education on the ability to respond to ethical issues for undergraduate paramedic students and achieved its educational goals. Quantitative evaluation demonstrated that all learning achievement goals, from basic knowledge to decision-making support, were acquired at a homogeneous and high level, proving the effectiveness of this course's instructional method. On the other hand, the qualitative free descriptions showed a recognition of practical difficulty. Moving forward, the development of instructional methods that strengthen simulation education using more complex and realistic dilemma cases to over-

come this “difficulty” and enhance self-efficacy in ethical judgment is indispensable for establishing the ideal state of professional ethics education commensurate with the increasingly sophisticated and broadening scope of the paramedic’s responsibilities.

9. Limitations and Future Research Directions

This study provides compelling evidence regarding the initial effectiveness of the “Paramedical Ethics” course; however, its findings are subject to several inherent limitations.

Firstly, the scope of this investigation was narrow, relying solely on self-assessment data from students within a single academic institution.

Furthermore, the inherent risk of response bias is acknowledged, given that the primary researcher also served as the course instructor. Future iterations of this research will mitigate this risk by employing objective assessment measures and incorporating data from independent evaluators to enhance validity.

Secondly, the true impact of this educational intervention can only be measured longitudinally. The current findings represent an endpoint in the academic setting but must be validated in the professional sphere. Moving forward, a critical next step is to conduct follow-up studies to ascertain whether students who completed “Paramedical Ethics” exhibit superior ethical competency, resilience to moral distress, and improved decision-making skills when they transition into their roles as certified paramedics. For future research, adopting a pre-test/post-test design is recommended to more strictly measure the change in students’ ethical knowledge and attitudes and to clearly establish the causal relationship of the educational effect.

This research should not be viewed as the final conclusion, but rather as the foundational work. The demonstrated pedagogical utility of this specialized ethics course encourages us to advocate for its wider implementation. We hope to foster a collaborative environment across all paramedic science training institutions to adopt, adapt, and refine similar curricula, ultimately contributing to a national standard for advanced ethical preparation commensurate with the growing responsibilities of the modern paramedic profession.

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Conflicts of Interest

The author declares no conflicts of interest regarding the publication of this paper.

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