# Evaluation of Emergency Physicians' Knowledge, Attitudes, and Educational Needs Regarding End-of-Life Patient Management: A Cross-Sectional Survey Study

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## ABSTRACT

**Introduction:** This study evaluates the self-assessed knowledge, attitudes, and educational needs of emergency physicians in Türkiye regarding End-of-Life care (EOLC) to identify barriers and guide training programs.

**Methods:** A descriptive, cross-sectional survey was conducted between October 7 and December 7, 2024, using a 24-item Turkish questionnaire. The survey included sections on demographics, knowledge, attitudes, and educational needs related to EOLC. Responses were collected via a 5-point Likert scale and multiple-choice questions. The survey was distributed online and in print to 415 emergency physicians, achieving a 48% response rate (n=200).

**Results:** The majority of respondents (85.5%) reported not having received formal EOLC training, and 41% of them self-assessed their knowledge as inadequate. This self-assessed knowledge was found to be associated with one's professional title. Residents exhibited a higher propensity to report inadequate knowledge compared to specialists (68.5% vs. 25.9%) and faculty members (5.6%) (p=0.021). The importance of privacy for EOLC patients was highlighted by 90% of the participants; 75% expressed support for the involvement of families in decision-making processes; and 70% advocated for the designated "discussion and farewell" room. Key barriers identified included admission barriers, which constituted 20.3% of identified barriers, with 58% rating specialist team support as inaccessible or only partially accessible.

**Conclusion:** This study identifies areas for improvement in emergency physicians' self-assessed knowledge and training related to EOLC, particularly among those who are younger and less experienced. Formal training was linked to increased confidence and perceived competence. Challenges such as insufficient access to specialist teams and systemic obstacles were noted. The findings point to the potential benefits of advancing EOLC education in emergency medicine curricula through a multidisciplinary approach, which could aid physicians in addressing current limitations and enhancing care delivery.

Keywords: Emergency department, end-of-Life care, end-of-Life, education, survey, palliative care

## Introduction

End-of-Life care (EOLC), often associated with palliative care, provides a range of healthcare services designed for individuals in the terminal stages of life. While the term is broadly defined, it may also specifically refer to the care given in the final moments before death (1). Progress in medical advancements and improved chronic disease management has further emphasized the critical role of EOLC. The World Health Organization reports that nearly 40 million people worldwide require palliative care annually; however, only 14% have access to these services (2). This stark disparity highlights the urgent need for healthcare systems to develop and implement policies that ensure fair and accessible palliative care for all (3).

Emergency departments (EDs) frequently act as the first point of care for patients experiencing poorly managed symptoms related to chronic illnesses (4-6). While emergency medicine aims to stabilize patients and manage acute health issues, the focus of EOLC is on improving comfort and ensuring a higher quality of life. The distinct objectives of these two disciplines create significant challenges in incorporating EOLC within the ED setting (7). Obstacles include inadequate staff training, insufficient privacy, heavy workloads, communication difficulties, resource



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© Copyright 2025 by the University of Health Sciences Türkiye, İstanbul Training and Research Hospital/İstanbul Medical Journal published by Galenos Publishing House. Licensed under a Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 (CC BY-NC-ND) International License limitations, restricted access to specialized palliative care teams, and a low hospital bed turnover rate (8-10).

In Türkiye, the aging population has led to an increase in End-of-Life (EOL) patient admissions, many of whom seek care in EDs (11). Although programs such as the cancer control program and the Pallia-Turk initiative have been introduced, the lack of a unified national policy for palliative care continues to be a significant shortcoming. While hospitals have established EOLC centers and the palliative care nursing certificate program was launched in 2015, the healthcare workforce remains inadequate to address the rising demand (12). Emergency medicine training includes lectures on oncologic emergencies and palliative care, but disparities in patient populations and resource availability across institutions result in inconsistent practical training opportunities.

The purpose of this study is to assess the knowledge, training, and attitudes of emergency physicians toward EOLC. Additionally, it aims to identify gaps in education and offer guidance for designing future training programs.

## Methods

## **Study Design**

The study was designed as a descriptive, observational, cross-sectional survey. The questionnaire was developed in Turkish. The study was conducted between October 7<sup>th</sup> and December 7<sup>th</sup>, 2024, using online and printed survey methods.

A pilot study was carried out to assess how well the questions were understood. Two professionals not part of the study's target participants completed the questionnaire and offered feedback. Based on their input, minor adjustments were made to the phrasing of the questions.

## Participants and Inclusion Criteria

The study population was composed of emergency physicians employed in the Department of Emergency Medicine in university, state, private, and training and research hospitals in Istanbul, İzmir, Ankara, and Bursa, high patient-volume regions of Türkiye.

The number of emergency physicians working per facility varies. Actively working emergency medicine residents, specialists, and faculty members (assistant professors, associate professors, and professors) who provided electronic or written informed consent and completed the survey in full were recruited for the study. Physicians temporarily rotating in EDs from other clinical specialties or those not meeting the inclusion criteria were excluded from the study.

#### **Data Collection Method**

Data collection was completed in a 2-month period. The research team contacted the administrative and academic leads of selected emergency medicine clinics by telephone to provide information about the study's purpose and scope. Survey links were distributed to emergency medicine physicians in these clinics via email and internal communication platforms. To enhance participation, a reminder email was sent once, and additional reminders were shared through online platforms. Furthermore, printed survey forms were prepared and distributed in specific centers.

To boost participation, we sent two reminders through mobile communication applications and distributed printed surveys at selected centers. Combining online and printed surveys with multiple reminders effectively increased response rates (13).

## **Survey Structure**

The survey, developed by the researchers following a comprehensive review of the existing literature, was organized into four main sections and comprised a total of 24 questions (14-16). The first section gathered demographic information, including participants' age, gender, professional title, years of experience, workplace type, and prior training in EOLC.

The subsequent sections evaluated participants' knowledge, attitudes, practices, and educational needs related to EOLC. The survey employed two primary question formats: multiple-choice questions and 5-point Likert scale questions. A total of 10 Likert-scale questions were designed to assess participants' agreement with specific statements (e.g., "strongly agree" to "strongly disagree"), their self-evaluated competence in prognosis communication, and their knowledge related to EOLC. The questions also aimed to measure the frequency of encounters with patients requiring EOLC in EDs, the regularity of evaluating organ and tissue donation during EOLC, and the perceived accessibility of specialized support for EOLC decision-making. In addition to these, seven multiple-choice questions were included to allow participants to select one or more relevant responses, focusing on factors influencing EOLC decisions, preferred strategies for pain management, and challenges encountered in the provision of EOLC (refer to Appendix 1).

## Participation and Response Rate

The survey invitation link was distributed to 415 emergency medicine physicians via email. A contact person was designated for each facility. The survey link was sent to an initial contact person and then to participants via mobile communication applications. Printed surveys were used to recruit participants during outreach trips to emergency medicine meetings. The participants were encouraged by reminder emails and messages via WhatsApp messenger through the contact person. The responses were obtained from 200 participants. The overall response rate was calculated as 48%. The study was approved by the Non- Interventional Clinical Research Ethics Committee of Istanbul Medipol University (approval number: 919, date: 26.04.2024). Actively working emergency medicine residents, specialists, and faculty members (assistant professors, associate professors, and professors) who provided electronic or written informed consent and completed the survey in full were recruited for the study.

## **Statistical Analysis**

Survey data were organized in Excel and analyzed using SPSS (Version 25.0, IBM Corp., Armonk, NY). Descriptive statistics summarized the data as frequencies, percentages, means  $\pm$  standard deviation, or medians (minimum-maximum), depending on normality assessed via the Shapiro-Wilk test. The Kruskal-Wallis test, with Dunn-Bonferroni posthoc analysis, was used for non-normally distributed variables across multiple groups. Categorical data were analyzed using Chi-square and Fisher-Freeman-Halton tests, with a significance threshold of p<0.05.

## Results

A total of 200 physicians participated in the study, of whom 53.5% were male and 46.5% were female. The mean age of the participants was 33.06±5.68 years. Regarding professional titles, 54% were residents, 37% were specialists, and 9% were faculty members. EOLC training was reported as inadequate, with 85.5% of participants indicating that they had never received formal training, while only 14.5% reported prior training, primarily during their residency programs. Additionally, 75.5% of participants stated that they frequently or very frequently encountered patients requiring EOLC in the ED.

Self-assessment of knowledge in End-of-Life care: Among participants, 41% rated their knowledge as inadequate ("completely inadequate" or "inadequate"), whereas only 13.5% considered their knowledge to be adequate. A statistically significant difference in median age was observed across self-assessed knowledge levels, with participants who rated their knowledge as adequate having a higher median age (p=0.027). Professional title also influenced knowledge competency, with inadequate knowledge reported more frequently by residents (68.5%) compared to specialists (25.9%) and faculty members (5.6%), (p=0.021). Additionally, participants with more than 10 years of experience were significantly more likely to rate their knowledge as adequate (44.4%) compared to those with fewer years of experience (p=0.024). Adequate knowledge was reported by 55.6% of physicians who had received formal EOLC training, compared to 44.4% of those without training (p < 0.001). Notably, none of the participants rated their knowledge as "strongly adequate" (Table 1).

End-of-Life care factors in the emergency department: Participants were asked, "what factors do you consider important when evaluating

EOLC for ED patients?" Multiple responses were allowed. The most frequently selected factor in evaluating EOLC in the ED was effective symptom control (24.0%), followed by decision-making capacity (18.8%). The importance of the presence of a care team and review of the care plan was equally recognized (17.1% each), while non-pharmacological symptom management was identified as a relevant factor by 15.1% of participants. The availability of palliative care centers was the least frequently selected factor (7.8%) (Figure 1).

**Pain assessment methods for End-of-Life care patients:** Participants were asked, "which standardized pain scoring system do you use to assess pain in EOLC patients?" The most commonly used standardized pain assessment method for EOLC patients was the Visual Analog Scale (47.8%), followed by the Behavioral Pain Scale (22.2%). The Sedation-Agitation Scale and the Pain Assessment Behavior Scale were used with equal frequency (13.0% each) (Figure 2).

**Pain management strategies in End-of-Life care in the emergency department:** Participants were asked, "what approaches do you prefer for managing pain in EOLC patients?" The most frequently preferred pain management strategy in EOLC patients was dose adjustment based on patient characteristics and clinical conditions (25.9%), followed by the use of adjuvant therapy, such as antiemetics for nausea control (25.0%). The administration of opioids and benzodiazepines for symptom relief was also a common approach (24.3%) (Figure 3).

**Competence in explaining prognosis in End-of-Life care:** Competence in explaining prognosis in EOLC varied among participants. 32.0% rated themselves as very competent; while 9.5% considered themselves completely competent. In contrast, 26.0% reported slight or no competence. Residents reported lower competence levels compared to

Table 1. Factors associated with self-assessed knowledge on EOLC											
	Total (n=200)	Completely inadequate (n=28)	Inadequate (n=54)	Undecided (n=91)	Adequate (n=27)	p-value					
Age, median (Q1-Q3)	31 (28-37)	31.5 (29-37.75)	30 (28-36)	31 (29-36)	35 (30.75-38.25)	0.027ª					
Gender, n (%)											
Male	107 (53.5)	16 (57.1)	27 (50.0)	53 (58.2)	11 (40.7)	0.391 <sup>b</sup>					
Female	93 (46.5)	12 (42.9)	27 (50.0)	38 (41.8)	16 (59.3)						
Professional title, n (%)											
Emergency resident	108 (54)	14 (50.0)	37 (68.5)	50 (54.9)	7 (25.9)	0.021 <sup>c</sup>					
Faculty member	18 (9)	2 (7.1)	3 (5.6)	8 (8.8)	5 (18.5)						
Specialist	74 (37)	12 (42.9)	14 (25.9)	33 (36.3)	15 (55.6)						
Professional experience, n (%)											
<2 years	21 (10.5)	2 (7.1)	12 (22.2)	6 (6.6)	1 (3.7)	0.024 <sup>b</sup>					
2- ≤5 years	76 (38)	11 (39.3)	18 (33.3)	41 (45.1)	6 (22.2)						
>5-10 years	55 (27.5)	9 (32.1)	14 (25.9)	24 (26.4)	8 (29.6)						
>10 years	48 (24)	6 (21.4)	10 (18.5)	20 (22.0)	12 (44.4)						
EOL training, n (%)											
Yes	29 (14.5)	1 (3.6)	4 (7.4)	9 (9.9)	15 (55.6)	< 0.001°					
No	171 (85.5)	27 (96.4)	50 (92.6)	82 (90.1)	12 (44.4)						

The data are presented as median (Q1-Q3) and n (%). EOL: End-of-life, EOLC: End-of-life care, Q1-Q3: Interquartile range (first and third quartiles). Statistical tests: <sup>a</sup>Kruskal-Wallis test, <sup>b</sup>Chi-square test, <sup>c</sup>Fisher-Freeman-Halton test

faculty members and specialists, with the highest proportion of those rating themselves as completely competent observed among specialists (p=0.005) (Table 2). Additionally, physicians who had received EOLC training were more likely to rate themselves as completely competent (26.3% vs. 9.5%, p=0.048) (Table 2).

**Perspectives on the implementation of "do not resuscitate" orders in the emergency department:** Participants were asked about the implementation of "do not resuscitate" (DNR) orders for EOLC patients experiencing cardiac arrest in the ED. More than half (54.0%) supported the application of DNR orders, whereas 21.5% opposed their use, and 24.5% remained undecided.

Assessment of organ and tissue donation in End-of-Life care: Participants were asked how often participants consider organ and tissue donation during EOLC. Responses indicated that such considerations were generally infrequent. Specifically, 16.0% reported "never"



EOLC: End-of-life care, ED: Emergency department



EOLC: End-of-life care



EOLC: End-of-life care, SC: Subcutaneous

considering it, 34.5% stated "rarely," 21.5% indicated "occasionally," 19.0% reported "often," and only 9.0% stated they "always" considered it. The frequency of considering organ and tissue donation did not differ significantly across demographic or professional characteristics, including age (p=0.997), gender (p=0.814), professional title (p=0.588), years of experience (p=0.519), or prior EOLC training (p=0.219). A detailed distribution of responses is presented in Figure 4.

**Cultural and spiritual needs:** Participants were asked about their perspectives on cultural and spiritual needs in EOLC. The majority of participants (90.0%) agreed or strongly agreed on the importance of ensuring privacy for EOLC patients in the ED. Additionally, 75.0% supported involving the patient's family in decision-making, while 25.0% were either undecided or opposed. Regarding the provision of culturally and religiously appropriate care, only 25.5% expressed agreement, whereas 74.5% were undecided or disagreed (Figure 5). Furthermore, 70.0% supported the establishment of a designated "discussion and farewell" room for grieving families. No significant associations were found between these perspectives and demographic or professional factors, including age, gender, professional title, years of experience, or prior training (p>0.05).

**Perspectives on including End-of-Life care education in emergency medicine curricula:** Participants were asked about their perspectives on incorporating EOLC education into the emergency medicine curriculum. The majority of participants (76.0%) supported the inclusion of EOLC education in the emergency medicine curriculum, with 40.0% strongly agreeing and 36.0% agreeing. In contrast, 15.0% were undecided, and 9.0% disagreed. No significant differences were observed across demographic or professional characteristics (p>0.05).

Accessibility of specialist team support: Participants were asked, "How would you rate the accessibility of specialist team support when needed for EOLC?" The accessibility of specialist team support for EOLC was rated as inadequate by 58.0% of participants, with 29.5% considering it completely inaccessible and 28.5% as generally not accessible (Figure 6).

**Challenges encountered by emergency physicians in managing End-of-Life patients:** Participants were asked about the challenges they encounter while managing EOL patients in the ED. The most frequently reported challenges were admission barriers and unrealistic expectations from family members, each cited by 20.3%. A detailed breakdown of reported challenges is illustrated in Figure 7.

**Preferred topics for further knowledge in End-of-Life care:** Participants were asked about specific topics they wished to learn more about in EOLC. The most frequently selected topic for further knowledge in EOLC was decision-making processes (25.6%), followed by medication management and treatment planning (20.7%) and communication skills with patients and their families (18.8%). Additionally, managing critically ill patients in intensive care units (ICUs) (19.2%) and providing psychological and spiritual support (15.3%) were identified as key areas of interest. A small proportion (0.3%) selected "other," which included topics related to legal procedures.

**Preferred training methods in End-of-Life care education:** Participants were asked about their preferred training methods for EOLC education. The most preferred method for EOLC education was multidisciplinary training

	Total (n=200)	Not at all (n=15)	Slightly (n=37)	Moderately (n=65)	Very (n=64)	Completely (n=19)	p-value	
Age, median (Q1-Q3)	31 (24:55)	35 (28-37)	30 (27.5-34)	30 (29-37.5)	32.5 (28-37)	35 (30-40)	0.082 <sup>a</sup>	
Gender, n (%)								
Male	107 (53.5)	9 (60)	26 (70.3)	31 (47.7)	30 (46.9)	11 (57.9)	0.159 <sup>b</sup>	
Female	93 (46.5)	6 (40)	11 (29.7)	34 (52.3)	34 (53.1)	8 (42.1)		
Professional title, n (%)								
Emergency resident	108 (54)	6 (40)	28 (75.7)	36 (55.4)	34 (53.1)	4 (21.1)	0.005 <sup>c</sup>	
Faculty member	18 (9)	1 (6.7)	0	5 (7.7)	7 (10.9)	5 (26.3)		
Specialist	74 (37)	8 (53.8)	9 (24.3)	24 (36.9)	23 (35.9)	10 (52.6)		
Professional experience, n (%)								
<2 years	21 (10.5)	1 (6.7)	7 (18.9)	8 (12.3)	5 (7.8)	0	0.091 <sup>c</sup>	
2- ≤5 years	76 (38)	4 (26.7)	18 (48.6)	28 (43.1)	22 (34.4)	4 (21.1)		
>5-10 years	55 (27.5)	5 (33.3)	9 (24.3)	13 (20)	19 (29.7)	9 (47.4)		
>10 years	48 (24)	5 (33.3)	3 (8.1)	16 (24.6)	18 (28.1)	6 (31.6)		
EOL training, n (%)								
Yes	29 (14.5)	2 (13.3)	1 (2.7)	14 (21.5)	7 (10.9)	5 (26.3)	0.048 <sup>b</sup>	
No	171 (85.5)	13 (86.7)	36 (97.3)	51 (78.5)	57 (89.1)	14 (73.7)		

Table 2. Factors associated with self-perceived competence in communicating prognosis in EOLC

The data are presented as median (Q1-Q3) and n (%). EOL: End-of-life, EOLC: End-of-life care, Q1-Q3: Interquartile range (first and third quartiles). Statistical Tests: "Kruskal-Wallis test, "Chi-square test, 'Fisher-Freeman-Halton test





(32.9%), involving collaboration with professionals such as oncologists, intensivists, psychologists, and family physicians. This was followed by problem-based learning, including case-based scenarios (23.0%), and theoretical education, such as lectures and seminars (16.2%). Online learning tools and digital resources (14.8%) were also selected, while inservice training programs (13.1%) were the least preferred approaches.

## Discussion

In this study, we found that emergency physicians generally lack formal training in EOLC, rate their knowledge as inadequate, and face significant systemic barriers in delivering effective care. The majority of participants reported no formal training, with older and more experienced physicians rating their knowledge more favorably, suggesting that age and experience influence perceptions of knowledge adequacy. Similar findings from South Africa and Ireland highlight significant knowledge deficits among younger physicians, largely due to



**Figure 5.** Cultural and spiritual needs in EOLC. Participants' perspectives on cultural care, privacy, family involvement, and farewell rooms. EOLC: End-of-life care







limited training opportunities (17,18). Physicians who received formal EOLC training in our study reported greater confidence in explaining patient prognosis, aligning with evidence that training reduces role ambiguity and improves communication skills (18).

Existing literature underscores the importance of practical models and skills-based approaches in EOLC training (14,15). For example, a New York study found that emergency medicine residents recognized the value of palliative care but had received limited formal training (19). Similarly, despite EOLC being included in the ABEM curriculum, critical areas such as symptom management, care during the dying process, and hospice patient management remain inadequately addressed (20). Research from Canada further emphasizes that EOLC training often consists of theoretical lectures, lacking practical application (21). Participants in our study expressed strong agreement about the need to integrate EOLC training into curricula and showed a preference for scenario-based, multidisciplinary approaches.

Participants identified key challenges in EOLC, including insufficient support from specialized teams, prolonged waiting times, admission barriers, and inadequate psychological resources. Integrating palliative care services into EDs has the potential to enhance patient outcomes; however, systemic barriers such as resource shortages and a lack of trained staff remain significant obstacles (22,23). Multidisciplinary collaboration and improved environments are crucial to addressing these challenges (24). A qualitative study further emphasized that communication gaps, uncertainties, and conflicts at the ED-ICU interface could negatively impact EOLC decisions, particularly for elderly and critically ill patients (25). These findings highlight the need to strengthen communication processes and foster collaboration to address existing challenges in EOLC delivery within emergency settings.

Effective symptom control was identified in our study as one of the most frequently cited critical factors in the evaluation of EOL patients. This finding aligns with research defining quality indicators in EOLC, which emphasizes symptom management as a fundamental domain (26). Additionally, 75% of participants supported involving families in decision-making processes, consistent with literature highlighting the importance of patient- and family-centered care (27). Participants preferred dose adjustments based on patient characteristics and the use of opioids and benzodiazepines for symptom control in EOL patients.

The literature highlights the widespread use of medications such as morphine and midazolam during the withdrawal of life-sustaining treatments, often with dose escalation (28). A systematic review underscores the importance of quantitative tools for pain assessment, high-dose opioids, and decisions guided by ethical principles (29). Consistent with this, participants in our study commonly used the VAS for pain assessment, reflecting its practical application in EOL care.

DNR orders remain a contentious issue, with 54% of participants favoring implementation, while 24.5% remain undecided, likely due to the absence of a legal framework for DNR practices in Türkiye. The literature emphasizes evaluating DNR decisions within the context of patient autonomy and ethical principles, noting that cultural and religious values can significantly influence these processes (10,30). Finally, participants emphasized the importance of privacy and physical arrangements, such as farewell rooms, in delivering respectful and compassionate care. Quiet spaces in EDs not only support families but also aid healthcare professionals in managing sensitive EOL processes (8,10,24).

Our study identified significant gaps in emergency physicians' knowledge and training in EOLC, alongside systemic barriers that hinder the delivery of effective care. Future studies may explore the impact of structured training programs and assess the feasibility of integrated palliative care models in EDs, offering valuable insights to advance EOLC practices.

#### **Study Limitations**

This study has several limitations. It is a cross-sectional survey, capturing only a snapshot of participants' knowledge, attitudes, and experiences. Self-reported data may not fully reflect actual practices or competencies; and non-response bias was not assessed, which may affect the generalizability of the findings. Additionally, the response rate was 48%, which may introduce selection bias and limit the representativeness of the sample.

## Conclusions

This study reveals significant gaps in emergency physicians' selfassessed knowledge and training related to EOLC, with younger and less experienced physicians being most affected. Limited access to specialist team support and challenges such as prolonged ED stays were frequently highlighted by participants. These findings indicate the need for enhanced educational initiatives, better resource allocation, and systemic improvements to effectively address the multifaceted challenges associated with EOLC in emergency care settings.

## Ethics

**Ethics Committee Approval:** The study was approved by the Non-Interventional Clinical Research Ethics Committee of İstanbul Medipol University (approval number: 919, date: 26.04.2024).

Informed Consent: Actively working emergency medicine residents, specialists, and faculty members (assistant professors, associate

professors, and professors) who provided electronic or written informed consent and completed the survey in full were recruited for the study.

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## Footnotes

Authorship Contributions: Concept - M.E., B.A.K., E.Ü.A.; Design - M.E., B.A.K., E.Ü.A.; Data Collection or Processing - M.E., B.A.K.; Analysis or Interpretation - M.E., E.Ü.A.; Literature Search - M.E., B.A.K., E.Ü.A.; Writing - M.E., B.A.K., E.Ü.A.

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