



Knowledge and Perceptions of the End of Life among Tunisian Medical and Paramedical Staff

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Purpose: End-of-life (EOL) care is a vulnerable period in an individual's life. Healthcare professionals (HPs) strive to balance the preservation of human life with respect for the patient's wishes. The aims of our study were to assess HPs' knowledge and perceptions of EOL care and to propose areas of improvement to improve the quality of care. **Methods:** We conducted a single-center, cross-sectional study involving HPs from a university hospital who encountered EOL care situations. We used a questionnaire divided into four sections: knowledge, practice, perception, and training. We calculated the rate of correct answers and the collective competence index. **Results:** Eighty-six questionnaires were analyzed, with 82.5% (71/86) completed by medical respondents and 17.5% (15/86) by paramedical respondents. Most of the respondents, 71.8% (51/71), were interns and residents. The study focused on palliative care, medical assistance in dying, aggressive medical treatment, and euthanasia, finding adequate knowledge in the first three areas. Respondents assigned to the intensive care unit and those with more than 8 years of experience had significantly higher correct answer rates than their counterparts. Seventy-five percent of respondents (65/86) reported feeling that they had little or no mastery of EOL care, primarily attributing this to insufficient training and the unavailability of trainers. **Conclusion:** Based on the findings of our study, which we believe to be the first of its kind in Tunisia, we can conclude that HPs possess an acceptable level of knowledge regarding EOL care. However, they require more exposure and training to develop expertise in this area.

Key Words: Palliative care, Professional competence, Terminal care, Ethics

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INTRODUCTION

End-of-life (EOL) care does not necessarily indicate that a person is imminently close to death; it encompasses the final hours of suffering, the last weeks of a terminal cancer phase, or the less predictable yet definitive EOL stage seen in degenerative neurological diseases [1]. This period represents a state of great vulnerability for the individual and their loved ones.

In this context, physicians and paramedical staff are placed in a particularly sensitive situation, tasked with balancing the imperative to preserve human life with the patient's wishes and dignity. In practice, the approach to managing patients in the EOL phase is informed by healthcare providers' knowledge and perceptions, but it must also incorporate the ethical dimension. This includes a range of socio-demographic, medical, psychological, religious, and legal considerations that

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are unique to each community and individual [2]. In recent years, the aging of the population and the rising incidence of chronic illnesses and cancer have led to an increased need for EOL care [1,2]. Given this trend and the fact that this subject remains under-researched in developing countries, including Tunisia, it is prudent to evaluate the knowledge and perceptions of healthcare professionals (HPs) regarding EOL care. By examining their practices and the challenges they face, we can suggest potential areas for improvement and ultimately enhance the quality of care provided.

Therefore, the aims of our study were to assess the knowledge and perceptions of medical and paramedical respondents who encountered EOL situations at our university hospital in Tunisia. We also sought to identify potential areas for improvement to ensure the quality of EOL care for patients, support the well-being of caregivers, and optimize resource management.

METHODS

1. Design

This is a descriptive study aimed at determining the level of knowledge and awareness regarding EOL care among medical and emergency services staff in Tunisia.

2. Participants

This study included both senior medical personnel (residents and interns) and trainee staff, as well as paramedical respondents from the medical-surgical services, all of whom were exposed to EOL care contexts. The exclusion criteria for respondents were as follows: (1) pediatrics professionals, as they do not handle EOL care for children; (2) obstetrics-gynecology professionals, who primarily care for young patients hospitalized for obstetric pathology; (3) professionals in consultation services (e.g., endocrinology, psychiatry, or otolaryngology), since these professionals rarely provide consultations for EOL cases.

In total, 130 questionnaires were distributed. Of these, 93 were returned filled out, but seven were incomplete and were therefore excluded from the analysis. We encountered refusals to complete the questionnaires, primarily among the paramed-

ical respondents. Ultimately, 86 questionnaires were included in the analysis.

3. Data collection

The institutional ethics committee confirmed that our project does not present any ethical issues (Institutional Review Board review number 41/2023). The questionnaire was modeled after the one utilized at the University Clinic in Family Medicine (CUMF), La Sarre, France, in 2016 [3]. For questions pertaining to EOL care knowledge, we employed the rate of correct answers as the primary evaluation metric for each question. Our study utilized an anonymous, self-administered paper questionnaire (Appendix 1). All participants were informed about the study and consented voluntarily to complete the questionnaire. The questionnaire was organized into four sections: knowledge (question 1), practice (questions 2 to 6), perception (questions 7 and 8), and the education (both academic and continuous) of professionals in EOL care (questions 9 to 11). We explored four themes of EOL care: palliative care, euthanasia, medical assistance in dying, and life prolongation. We calculated the rate of correct answers and the collective competence index, which measures the overall and average level of knowledge. The competence index was categorized into four levels: level 1, a lack of skills; level 2, insufficient mastery of skills; level 3, partial mastery of skills; and level 4, adequate mastery of skills. The study was carried out in September 2023 as a single-center, cross-sectional, knowledge, attitudes, and practices-type study at the M. Slim University Hospital in North Tunisia. Tunisia is the northernmost country in Africa, bordered by the Mediterranean Sea, with a population of 11.8 million Arabic-speaking inhabitants as of 2022. Arabs make up 98% of Tunisia's ethnic composition, and Muslims account for 99% of the population.

4. Data analysis

The data entry and analysis were conducted using the SPSS version 25 (IBM Corp., Armonk, NY, USA). We calculated absolute and relative frequencies (percentages) for qualitative variables, and means and medians for quantitative variables. The statistical tests performed included the chi-square test and the Fisher exact test to assess associations between two qualitative variables, as well as the Mann-Whitney test for

comparing two means. A significance level of $P < 0.05$ was established for all statistical tests.

RESULTS

1. Participants' general characteristics

There were 57 female participants (66%). Most of the participants ($n=25$; 30%) worked in the intensive care unit, followed by medical interns ($n=19$; 22%) and medical residents ($n=18$; 21%) (Table 1).

2. Knowledge, competence, and perceptions of EOL care

Data regarding respondents' knowledge, competence, and perceptions of EOL care are summarized in Table 2.

1) Palliative care

The rate of correct answers concerning palliative care was 100%, and all participants responded that they supported this practice. Specifically, their responses were primarily motivated by the following considerations: "providing the best quality of life for patients" and "preserving the dignity of patients." All respondents were in favor of establishing palliative care units in Tunisian hospitals. This was a priority for most respondents (86%, 74/86).

2) Euthanasia

This practice had the lowest rate of correct answers (77.14%) and the lowest collective competence index (3). Furthermore, 82.6% of the respondents were against this practice. For the supporters of this approach, the responses were motivated by

Table 1. Respondents' General Characteristics (N=86).

Data	n (%)
Gender	
Female	57 (66)
Male	29 (34)
Hospital department	
Intensive care unit	25 (30)
Pneumology	13 (14)
Abdominal surgery	13 (14)
Cardiology	11 (13)
Internal medicine	9 (10)
Gastroenterology	8 (9)
Orthopedic surgery	4 (6)
Nephrology	3 (4)
Respondents' position	
Professor	2 (2)
Associate professor	7 (8)
Assistant professor	11 (13)
Family physician	14 (16)
Medical resident	18 (21)
Medical intern	19 (22)
Nurse	10 (12)
Anesthetic technician	3 (4)
Physiotherapist	2 (2)

Table 2. Results Regarding Knowledge, Competence, and Perceptions of End-Of-Life Care (N=86).

Themes	Knowledge (RCA)	Collective competence index (level)	Perception		Main arguments
			For n (%)	Against n (%)	
Palliative care	100%	4	86(100)	0(0)	<ul style="list-style-type: none"> - Providing the best quality of life for patients - Preserving the dignity of patients
Euthanasia	77.14%	3	15(17.4)	71(82.6)	<ul style="list-style-type: none"> - Withholding therapy can be a solution in certain cases - Respecting the refusal of treatment is a patient's right - Patient autonomy comes first
Medical assistance in dying	92%	4	0(0)	86(100)	<ul style="list-style-type: none"> - It constitutes homicide - I accept the patient's will to refuse treatment, but I do not assist in their dying - It is not allowed legally and ethically
Life prolongation	87.5%	4	5(5.8)	81(94.2)	<ul style="list-style-type: none"> - Neglecting quality of life at the expense of life prolongation - Other patients will have a greater need for medications and resources that are being used for end-of-life patients - Prolonging the suffering of patients and their families

RCA: rate of correct answers.

the following considerations: “withholding therapy can be a solution in certain cases,” “respecting the refusal of treatment is a patient’s right,” and “patient autonomy comes first.”

3) Medical assistance in dying

Respondents showed a high rate of correct answers (92%) and a high collective competence index (4). Nevertheless, all respondents were against the approach. The reasons were as follows: “it constitutes homicide,” “I accept the patient’s will to refuse treatment, but I do not assist in their dying,” and “it is not allowed legally and ethically.”

4) Life prolongation

The rate of correct answers was 87.5%, with a high collective competence index (4). Ninety-four percent of the respondents were against this practice, for the following reasons: “neglecting quality of life at the expense of life prolongation,” “other patients will have a greater need for medications and resources that are being used for end-of-life patients,” and “prolonging the suffering of patients and their families.”

3. Associations between the rate of correct answers and socio-demographic characteristics

Table 3 summarizes the associations between the rate of correct answers and various factors, including the respondents’ departmental affiliations, their professional status, and their

length of tenure in that status.

The assignment of healthcare professionals to the intensive care unit was found to have a significant association with the rate of correct answers in the areas of palliative care (P=0.03), euthanasia (P=0.002), and life prolongation (P=0.01). Professional experience of more than 8 years was strongly correlated with higher rates of correct answers for the topics of euthanasia (P=0.001) and life prolongation (P=0.04). The status of senior respondents also showed a strong correlation with the rate of correct answers for euthanasia (P=0.001), medical assistance in dying (P=0.0012), and life prolongation (P=0.004). Similarly, working as a nurse was significantly correlated with the rate of correct answers for palliative care (P<0.001), euthanasia (P<0.001), and life prolongation (P=0.03).

4. End-of-life and palliative care practice

In all cases, EOL activities were conducted in a hospital setting with hospitalized patients. The most prevalent underlying pathologies were cancers. A majority of respondents (75.6%, 65/86) reported having little to no proficiency in these care practices. To elucidate this lack of proficiency, the reasons are detailed in Table 4. The most common reasons were a lack of specific training (86%, 74/86), and a lack of means available to acquire skills in EOL care (79%, 68/86).

Table 3. Associations between the Rate of Correct Answers (RCA) and Socio-Demographic Characteristics.

Variables	RCA for palliative care		RCA for euthanasia		RCA for medical assistance in dying		RCA for life prolongation	
	n (%)	P*	n (%)	P*	n (%)	P*	n (%)	P*
Departments								
Intensive care unit	17 (100)	0.03	17 (100)	0.002	17 (100)	0.34	17 (100)	0.01
Other	33 (47.8)		21 (30.4)		61 (88.4)		42 (60.8)	
Seniority (yr)								
≤8	28 (75.6)	0.34	12 (32.4)	0.001	29 (78.3)	0.23	20 (54)	0.048
>8	46 (93.9)		49 (100)		40 (81.6)		47 (95.9)	
Medical respondents’ status								
Senior	16 (80)	0.065	18 (90)	0.001	20 (100)	0.0012	17 (85)	0.004
Trainee (resident/intern)	39 (76.4)		20 (39.2)		31 (60.7)		29 (56.8)	
Paramedical respondents’ status								
Nurse	10 (100)	<0.001	10 (100)	<0.001	10 (100)	0.27	9 (90)	0.03
Other	1 (20)		1 (20)		4 (80)		2 (40)	

*Chi-square test.

Table 4. Distribution of Responses according to Reasons for Lack of End-Of-Life Care Mastery (N= 86).

Reasons	Yes	No
	n (%)	n (%)
Having no or little mastery of end-of-life care practices	65 (87)	21 (13)
The number of patients I was exposed to was insufficient	40 (46.5)	46 (53.5)
The cases I was exposed to were not varied or complex enough	26 (30.2)	60 (69.8)
I did not receive any specific training	74 (86)	12 (14)
I did not have time for this type of training	23 (26.7)	63 (73.3)
There is a lack of means available to acquire skills in end-of-life care	68 (79)	18 (21)
I did not know it was a skill to be acquired	29 (33.7)	57 (66.3)
I lack interest in end-of-life issues	22 (25.6)	64 (74.4)
I feel uncomfortable about these situations	32 (37.2)	54 (62.8)
Trainers were unavailable for this type of learning	59 (68.6)	27 (31.4)
The trainers did not have all the necessary skills to guide me in my learning	31 (36)	55 (64)

5. Associations between reasons for the lack of proficiency in end-of-life care and various socio-demographic characteristics

We analyzed the associations between the lack of proficiency in EOL care and various socio-demographic characteristics (Table 5). Respondents who indicated that the number of patients requiring EOL care was insufficient were primarily from the departments of gastroenterology, rheumatology, and internal medicine ($P=0.01$) and were predominantly medical trainees, including residents and interns ($P<0.001$). Those who felt that the cases of patients requiring EOL care were not varied or complex enough typically had less than or equal to 8 years of experience in their position ($P=0.001$) and were mainly medical trainees ($P<0.001$). Respondents who had not received specific training in this area were mostly paramedical staff ($P=0.004$), particularly nurses ($P<0.001$). Respondents who reported a lack of resources for caring for EOL patients were mainly from the departments of gastroenterology, rheumatology, and internal medicine ($P<0.001$). Those who were unaware that EOL care was a skill to be acquired were mostly medical trainees, as opposed to medical staff ($P=0.03$), and had less than 8 years of seniority ($P<0.001$). Lastly, respondents who felt uncomfortable in EOL situations typically had less than 8 years of seniority ($P<0.001$) and were primarily medical trainees compared to medical staff ($P=0.002$).

DISCUSSION

With the recent development of several types of palliative therapy, such as targeted therapy, immunotherapy, third and fourth-line chemotherapy, and pain-relief medications, EOL care has become heavily medically oriented [4]. Worldwide, approximately 20.4 million people require palliative care annually, with the majority being adults (19 million) and 34% of them suffering from cancer-related conditions. These numbers are on the rise, particularly in developed countries [5,6]. Of all EOL care options, only palliative care is explicitly recognized as a medical right, while the others are mired in significant moral controversies [2]. Our study examined four types of EOL care: palliative care, euthanasia, medical assistance in dying, and life prolongation. The results showed that healthcare professionals generally possess a good knowledge of these care options, as indicated by collective competence indices.

The collective competence index of our respondents indicated a level 4 proficiency in palliative care knowledge, demonstrating a substantial mastery of the necessary skills. This proficiency can likely be attributed to the universal commitment to palliative care principles among the respondents, as well as the practical application of these principles by 80% of them—especially those working in the intensive care unit and the nursing staff. Healthcare professionals prioritized maintaining the patient's physical comfort and dignity. However, there was a notable lack of emphasis on the quality of life for families and relatives, as well as on addressing psychological and

Table 5. Associations between Reasons for the Lack of Proficiency in End-Of-Life Care and Various Socio-Demographic Characteristics.

Variables	Insufficient number of patients		Lack of variety and complexity of cases		Lack of specific training		Lack of time for training		Lack of means for training		Ignoring it was skill to be acquired		Lack of interest		Discomfort with these situations		Trainers unavailable/unqualified		
	n (%)	P*	n (%)	P*	n (%)	P*	n (%)	P*	n (%)	P*	n (%)	P*	n (%)	P*	n (%)	P*	n (%)	P*	
Departments																			
Intensive care unit	3 (17.6)	0.01	7 (41.1)	0.17	13 (76.5)	0.34	5 (29.4)	0.3	5 (29.4)	0.001	4 (23.5)	0.25	4 (23.5)	0.15	6 (35.2)	0.32	12 (70.5)	0.51	
Other	37 (53.6)		19 (27.5)		61 (88.4)		18 (26)		63 (91.3)		25 (36.2)		18 (26)		26 (37.6)		47 (68.1)		
Seniority (yr)																			
≤ 8	17 (45.9)	0.58	22 (59.4)	0.001	26 (70.2)	0.23	14 (41.1)	0.18	33 (89.1)	0.38	24 (64.8)	0.03	10 (27)	0.5	30 (81)	0.001	25 (67.5)	0.28	
> 8	26 (53)		4 (8.1)		17 (34.6)		9 (18.3)		35 (71.4)		5 (10.2)		12 (24.4)		2 (4)		21 (42.8)		
Medical respondents' status																			
Senior	2 (10)	0.01	0 (0)	0.01	11 (55)	0.28	4 (20)	0.09	6 (30)	0.56	3 (15)	0.01	3 (15)	0.37	1 (5)	0.002	9 (45)	0.36	
Trainee (resident/intern)	42 (82.3)		33 (64.7)		48 (94.1)		19 (37.2)		37 (62.7)		24 (48)		18 (35.2)		31 (60.7)		26 (50.9)		
Paramedical respondents' status																			
Nurse	8 (80)	0.38	5 (50)	0.37	1 (10)	0.01	3 (30)	0.08	7 (70)	0.21	4 (40)	0.09	5 (50)	0.24	3 (30)	0.25	4 (40)	0.37	
Other	3 (60)		3 (60)		5 (100)		4 (80)		3 (60)		4 (80)		4 (80)		2 (20)		3 (60)		

*Chi-square test.

spiritual suffering—both of which are critical components of palliative care. This stands in contrast to the findings from the multicenter series by Masumbuku and Coppieters [7], where 85% of nurses endorsed palliative care for its spiritual benefits. Among the remaining respondents, 40% valued the comfort provided by such care, and 5% believed it extended patients' lives [7]. In our study, all respondents agreed that palliative care units should be created in most Tunisian hospitals, and most of them (86%) considered this to be a priority.

Despite the limited number of health facilities dedicated to palliative care in Tunisia, non-governmental organizations like the Tunisian Association for the Promotion of Palliative Care are actively organizing various activities to support patients in need of EOL care, as well as hosting awareness-raising events.

Euthanasia involves the intentional termination of a patient's life in a humane and painless manner, once all curative treatments and palliative care options have been exhausted for their progressive and incurable illness. This act is performed only upon the explicit request of the patient, following a mandatory waiting period [2,8,9]. From an ethical standpoint, this practice may produce a double effect: one that is morally acceptable and intended (the alleviation of suffering) and another that is unintended and negative, occurring only as an indirect consequence (the hastening of death) [8,10]. In our study, intensive care unit physicians, senior doctors, respondents with more than 8 years of seniority, and nurses provided the most accurate responses, likely due to their extensive and sustained interaction with patients during the EOL phase. Fifteen respondents (17.4%) expressed agreement with the concept of euthanasia, citing reasons such as therapeutic abstention and respect for patient autonomy. In France, the National Medical College conducted a survey among 605 practicing doctors concerning their views on EOL issues. The results indicated that 60% of the respondents supported "active" euthanasia, while 39% opposed it [2].

Other reasons against euthanasia have been cited in the literature, such as the risk of a slippery slope and its impact on societal perceptions of illness, disability, and even old age [11]. In Tunisia, euthanasia is illegal, which contrasts with the beliefs of approximately one-third of respondents (30%), pointing to a significant information gap on this issue. Euthanasia is classified as deliberate homicide and murder, with an element

of premeditation. In Tunisia, passive euthanasia is considered culpable neglect under Article 2 of Law N48-66. In our study, 60% of respondents were unaware of any countries where euthanasia is legal. These countries include Belgium, the Netherlands, Luxembourg, and Spain as of 2020.

Medical assistance in dying involves the intentional provision of knowledge and/or means to a conscious and autonomous individual, enabling them to end their own life. This includes advising on the lethal dose of a substance, prescribing such doses, or supplying the substances themselves. The individual must be suffering from a serious and incurable disease [12,13]. In our study, despite a collective competence index of 92% (level 4), 10% of respondents believed that medical assistance in dying is legal in Tunisia. This belief, similar to the case of euthanasia, indicates a significant lack of information in this area.

Medical assistance in dying is not legally authorized in Tunisia, whereas it is permitted in Austria and Italy under certain conditions. The concept of life prolongation pertains to the application of intensive treatments that are disproportionate to the anticipated improvement in the health status of a patient in the terminal phase of an illness. This issue highlights the tension between patient autonomy and the beliefs, as well as potential financial interests, of the medical profession [10]. In our study, the collective competence index for the theme of life prolongation was 87.5% (level 4). Nonetheless, 20% of the participants believed that the treatments employed in this context could improve the disease prognosis, and 30% were under the impression that life prolongation was legal in Tunisia. As with euthanasia, doctors in intensive care units, senior doctors, and HPs with over 8 years of seniority, as well as nurses, provided the most correct answers. This is likely attributable to their extensive experience and sustained, close contact with patients at the end of life. In the literature, hospital-based studies frequently encompass a broader range of specialties than those included in our research. These often involve psychiatrists, psychotherapists, neurologists, oncologists, and geriatricians. In the context of home and nursing home care, general practitioners and nurses are the most common respondents [14,15].

Cancers were the most common condition encountered in EOL care practice, consistent with findings reported in the lit-

erature [8,16,17]. The lower rates for two other pathologies—cerebrovascular accidents (17.4%) and degenerative diseases (27.5%)—may be attributed to the lack of neurology and geriatrics departments at our university hospital.

The strength of our study is that it is the first to specifically examine the knowledge and perceptions of healthcare professionals facing EOL situations at Mongi Slim Hospital. It is notable for the diversity of its participants, which includes doctors of various levels and paramedical staff, as well as for the high proportion of doctors who participated relative to the total number of doctors at the hospital.

Nevertheless, this study also has several limitations that warrant attention. These include its single-center design, the limited size and representativeness of the sample, which necessitates caution in generalizing the results, and its focus on a single hospital structure, despite the fact that EOL care is provided in a variety of settings. Additionally, the absence of surgical or medical oncology departments, as well as neurology departments in our hospital, is notable, as these often manage patients with degenerative or cancer-related pathologies at the end of life. The use of a yes/no format for our questionnaire, chosen for its simplicity, speed, and potential to increase participation, is also recognized as a limitation of our study. In light of our study's findings and the significant role of EOL care, we advocate for enhanced training in this area within university curricula across all medical and paramedical specialties. This education should be both theoretical and practical, with hands-on experience guided by experts in the field. We further recommend that ongoing education in EOL

care be strengthened, utilizing the various resources available. This is particularly important for trainees and those with less experience. Additionally, there should be better availability of the necessary resources for caring for patients at the end of life.

All these measures are intended to provide better physical, psychological, social, and spiritual care for patients, while also considering the well-being of their families and relatives.

CONFLICT OF INTEREST

No potential conflict of interest relevant to this article was reported.

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AUTHOR'S CONTRIBUTIONS

Conception or design of the work: NK, DB. Data collection: DB. Data analysis and interpretation: DB, RE. Drafting the article: NK, DB, RA. Critical revision of the article: RE, AL, SBS. Final approval of the version to be published: DB, AL.

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Appendix 1. Questionnaire.

Questionnaire

- * Gender
- * Grade
- * Practice department
- * Specialty
- * Seniority

I/ Knowledge in end-of-life care:

1. Answer “yes” or “no” to these questions about end-of-life care

• Palliative care

	Yes	No
Is applied when the disease no longer responds to active treatments		
Offers the best quality of life for patients and their families		
Delays the patient’s death		
Concerns physical care only		
Must take place in a healthcare institution		
Is legal in Tunisia		

• Euthanasia

	Yes	No
Allows a patient to end his/her life after exhausting all available curative and palliative treatments		
Is performed at the patient’s explicit request		
Is performed as soon as the patient requests it		
Offers the patient a suffering-free death		
Is performed by an act or omission of an act		
Is legal in Tunisia		
Do you know a country where euthanasia is legal? Which one? _____		

• Medical assistance in dying

	Yes	No
It is the person himself who triggers his or her death, not a third party		
In all cases, the lethal product is given to the person wishing to die		
Valid even when providing a person with knowledge of the lethal dose of a drug		
Can be medically assisted		
Is legal in Tunisia		

• Life prolongation

	Yes	No
Involves heavy, disproportionate treatment		
The provided treatments improve the prognosis of the disease		
Can be performed against the patient's will		
Is legal in Tunisia		

II/ Practicing at the EOL care and palliative care:

2. Have you worked in a palliative care unit or managed patients at the EOL care?

Yes No

3. How competent are you in caring for and monitoring patients at the EOL care?

- I am very proficient
- I am proficient
- I am not very proficient
- I am not proficient

4. If you answered “I am not very proficient” or “I am not proficient” to question 2, please identify the reasons (several reasons may be given).

	Yes	No
The number of patients I was exposed to was insufficient		
The cases to which I was exposed were not sufficiently varied or complex		
I did not receive specific training		
I did not have time for this type of training		
There is a lack of means available to master end-of-life care		
I did not know it was a skill to be acquired		
I lack interest in end-of-life issues		
I feel uncomfortable in these situations		
Trainers were unavailable for this type of learning		
The trainers did not have all the necessary skills to guide me in my learning.		

5. In which of the following care settings do you estimate that you have provided care and follow-up for more than 10 patients at the EOL care?

	Yes	No
In a hospital unit		
Outpatient care		
In a consulting room		
At home		

6. For which of the following pathologies have you provided care to more than 10 patients at the EOL care?

	Yes	No
Neoplasia		
Degenerative disease		
Chronic disease (cardiac, pulmonary, renal, hepatic, etc.)		
Cerebrovascular accident		
Acute illness in a patient with numerous comorbidities		

III/ Respondents' perceptions of end-of-life care:

7. Do you agree with the following practices:

- Palliative Care Yes No

Why ?

- Euthanasia Yes No

Why ?

- Medical assistance in dying Yes No

Why ?

- Life prolongation Yes No

Why ?

8. What is your opinion regarding the creation of palliative care units in most Tunisian hospitals?

For, and it is a priority

For, but it is not a priority

Against

IV/ Training in end-of-life care:

9. How would you rate the training you have received during your university studies regarding patients receiving EOL care?

	Good	Moderate	Inadequate
Variety and complexity of cases			
Balance between theory and practice			
Availability of trainers			

10. How would you rate your post-graduate training (hospital and continuing education) regarding patients receiving EOL care?

	Good	Moderate	Inadequate
Variety and complexity of cases			
Balance between theory and practice			
Availability of trainers			

11. Identify the three activities, in order of priority, that were most useful in your training for monitoring patients receiving EOL care.

	1	2	3
Courses and workshops			
Clinical case discussions			
Ethical case discussions			

*Mandatory questions