Knowledge of and Attitudes toward End-of-life Care among Senior Medical Students at a Medical School in Puerto Rico

Iraida Salabarría-Peña, MSW, GGC*; Katia L. Mercado-Castro, MD, DABFM†;
Katiuska N. Báez-López, MD, DABFM‡; Keydi N. Betancourt-González, MD, DABFM§;
María del C. Ojeda-Vilá, MD, DABFM¶; Krystel M. Ruiz-Serrano, MS**

Objective: The purpose of this study was to assess knowledge and attitudes regarding end-of-life care (ELOC) among senior medical students at the University of Puerto Rico School of Medicine.

Methods: This was a cross-sectional study in which a questionnaire was administered to senior medical students from February through March 2017. The questionnaire included a knowledge and an attitudinal scale, and socio-demographic information.

Results: Eighty-one students with a mean age of 26 years participated. The majority were female (60.5%; n = 49) and most participants (81.5%; n = 63) correctly answered more than 70% of the questions on the knowledge scale. However, less than half (45.7%; n = 37) perceived that they had the knowledge necessary for EOLC. More male than female students (68.3% and 30.6%, respectively) felt that they were adequately prepared for working with patients requiring EOLC, a difference that was significant (P < .05). Most participants (81.0%; n = 66) had experienced the loss (due to death) of a significant person, and 66.0% (n = 53) felt that they had benefited from their experiences regarding being able to handle death.

Conclusion: The study shows that participants had adequate knowledge about and positive attitudes toward EOLC but believed that they were lacking in knowledge, especially female students. These findings suggest the need to design and implement strategies to develop and strengthen self-efficacy in medical students regarding management of patients at the end of life.

Key words: Medical students, End-of-life care, Knowledge, Attitudes

The aging population (1) and rise in the prevalence of various chronic illnesses increase the likelihood of physicians encountering patients at the end of their lives (2). Therefore, it is imperative that medical students acquire basic skills in both end-of-life care (EOLC) and palliative care (1), supported by a balanced curriculum containing current knowledge and offering hands-on experience to build healthy attitudes on this topic.

The National Institutes of Health describes EOLC as "the support and medical care given during the time surrounding death" (3). According to the World Health Organization, palliative care is an approach that improves the quality of life of patients facing imminent death and their families. This kind of care focuses on preventing suffering by means of early identification assessment, and treatment of pain and any other problems, be they physical, psychosocial, or spiritual (4).

EOLC has different effects on the patient, caregiver, and health care provider. For the patient, it leads to more effective symptom control and helps avoid unwanted life-sustaining interventions, among other benefits (5). For caregivers, the skills and knowledge inherent in EOLC help to manage their emotions, improves their understanding of the patient's medical condition, improves communication with health care providers, and leads to healthy bereavement and coping mechanisms (e.g.,

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*Social worker and Professor, Department of Family Medicine and Geriatrics, School of Medicine, University of Puerto Rico Medical Sciences Campus, San Juan, PR; †Faculty member, Family Medicine Residency, Family Medicine and Geriatrics Department, School of Medicine, University of Puerto Rico Medical Sciences Campus, San Juan, PR; ‡Geriatrician, Vita Care program, Medicare Advantage plan, San Juan, PR; §Geriatrician at NeoMed Center, Gurabo, PR; ¶Family medicine physician at MedFlorida Medical Centers, Aventura, FL; **Epidemiologist, Endowed Health Services Research Center, School of Medicine, University of Puerto Rico Medical Sciences Campus, San Juan, PR

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Address correspondence to: Iraida Salabarría-Peña, MSW, GCG, Family Medicine and Geriatrics Department, School of Medicine, Medical Sciences Campus, University of Puerto Rico, PO Box 365067, San Juan, PR 00936-5067. Email: iraida.salabarria@upr.edu

adaptation) (6,7). For health care providers, however, providing EOLC to a patient can cause anxiety, feelings of impotence, and frustration (8).

EOLC is a complex process that needs to be addressed in medical education. The agency accrediting medical schools in the United States, the Liaison Committee on Medical Education, does not require clinical rotations or courses on palliative medicine or EOLC (9) but has recognized the importance of including these in medical schools' curricula (10). There are many competencies required for adequate EOLC, including a general knowledge of the dying process; pain management; communication skills; an awareness of the attendant psychosocial, spiritual, legal, and ethical issues; hospice and palliative care services; among others. According to Bickel-Swensen (2007), medical schools offer students vast opportunities to gain formal knowledge and clinical experience so that they can become competent in curative medicine, but an educational abyss opens when a cure is no longer an option (11). Studies have found that medical students and residents do not feel sufficiently prepared caring for patients during their process of dying due to a lack of formal EOLC education and feedback from supervisors (12), not having been trained to discuss EOLC with patients (13), their lack of life experience (14), and the lack of a standardized curriculum (15).

Attitudes play an important role when providing EOLC. Eagly and Chaiken defined attitude as "a psychological tendency that is expressed by evaluating a particular entity with some degree of favor or disfavor" (16). Several studies have found that medical students had a positive attitude regarding medical responsibility and the ability to help dying patients and their families (12,17,18); but in the same studies those students had a negative emotional reactions and emotional distress concerning EOLC, which could be related to a lack of emotional coping skills regarding EOLC (12,17).

The University of Puerto Rico School of Medicine (UPRSOM) integrates into the 4-year medical school curriculum topics such as EOLC, pain management, psychosocial and spiritual needs, palliative and hospice care, legal and ethical issues, communication skills, and death and dying (18). Given the relevance of EOLC and existing concerns about possible educational gaps relating this topic, we decided to conduct a study on medical students' knowledge of and attitudes toward EOLC: our study sample comprised UPRSOM students in their last year of medical school (2017). Our main research question was *What is the current level of knowledge of EOLC among senior medical students?* We aimed to 1) assess the knowledge and attitudes of senior medical students from the UPRSOM regarding EOLC, 2) describe students' characteristics and how such characteristics can facilitate or hinder either or both domains, and 3) correlate knowledge and attitudes findings with socio-demographic variables. The result of this study will help determine if students have sufficient knowledge about and positive attitudes toward EOLC and provide recommendations on how to improve EOLC training in medical schools.

Material and Methods

This was a cross-sectional study that utilized a self-administered questionnaire to assess knowledge of and attitudes toward EOLC among medical students at the UPRSOM 2017 graduating class.

Study population. Of the total of 100 fourth year medical students at the UPRSOM in academic year 2017, we recruited 81 (81% response rate). The inclusion criteria were that the participant must be: a UPRSOM-enrolled medical student, a candidate for graduation in 2017, and be 21 years old or older.

Recruitment process. The dean of student affairs granted written endorsement to conduct the study and access the students. Institutional Review Board (IRB) of the University of Puerto Rico Medical Sciences Campus approval was obtained. Researchers reached out to students in their classrooms, explained the study and obtained the consent of those interested in participating. Participation was voluntary and anonymous.

Survey instrument. A literature review (12,17,19,20) informed the design of the survey instrument. The survey explored topics related to death and dying included in the UPRSOM curriculum map (21). The survey instrument consisted of 3 sections, having a total of 48 items: knowledge about EOLC (19 questions), attitudes towards EOLC (14 questions), and demographic information (15 questions). The knowledge scale used true or false questions categorized in the following areas: pain management, psychosocial and spiritual aspects, palliative and hospice care, legal and ethical issues, and communication. An average score summarizing student knowledge was calculated by dividing the number of correct responses by the total number of questions.

Participant's attitudes were assessed using a 5-point Likert scale (1 = strongly disagree; 2 = disagree; 3 = neither agree nor disagree; 4 = agree; 5 = strongly agree). The points of the scale were categorized as follows: 1–2, strongly disagree/disagree; 3, neither agree nor disagree; and 4–5 agree/strongly agree. The last section of the survey gathered demographic information. The content of the survey was evaluated through the input of health professionals with experience in EOLC. In addition, 8 first-year family medicine residents assessed the clarity of the scale anchors and statements, and the time required to answer the survey questions. Epi Info software, version 7.2.1.0, was used to prepare the data collection forms and the database.

Statistical analysis

Descriptive statistics, including mean and standard deviation for continuous variables and frequency distribution and percentages, were performed to describe participants' demographics and knowledge and attitudes regarding EOLC. Either a chi-square test or Fisher's exact test was done to calculate the associations between demographic characteristics and covariates with knowledge or attitudes about EOLC.

A logistic regression model was used to estimate the odds ratios—and their confidence intervals (CI)—of the associations between knowledge items and the independent variables, such as gender, experiencing the death of a significant other, and having a health professional in the family. These variables were selected based on the statistically significant test (P < .05) in the bivariate analysis. Stata statistical software, release 14 (College Station, TX: StataCorp LP), was used to perform the analysis.

Results

Demographics

There was a total of 81 participants (see Table 1). The mean age was 26 years, and most were female (60.5%), were single (85.2%), and had received their primary and secondary education in private schools (87.7% and 81.5%, respectively). Fewer than half of respondents (42.0%) had grown up in a family with a health care professional. Most students (96.3%) had applied to a residency program in internal medicine, pediatrics, or gynecology and obstetrics. Most participants had lost a significant person to death (81.5%), and 66.6% indicated that this loss positively influenced their ability to deal with dying patients. Although many students (95.1%) had grown in households that engaged in spiritual and/or religious practices, only 54.3% had maintained those practiced. Most participants (85.2%) had provided care to dying patients during their medical school training.

End-of-life care knowledge

Most participants (81.5%) answered the EOLC-related questions on the knowledge scale correctly. However, less than half (45.7%) of participants believed they had the necessary knowledge to manage patients at the end of their lives. As shown in Table 2, most respondents (98.8%) acknowledged the importance of pain management in the care of dying patients. In the psychosocial and spiritual category, participants understood that people go through different stages when facing death (97.5%); they identified spirituality as a key element (96.3%). Regarding the palliative-care category, most

Table 1. Socio-demographic characteristics among senior medical students at the UPRSOM, 2017 (n = 81).

Characteristic	N	Mean ± SD or %
Age, years		26.0 ± 1.3
Sex		
Female	49	60.5%
Male	32	39.5%
Marital status		
Married	12	14.8%
Single	69	85.2%
Stud at a private primary school	71	87.7%
Studied at a private secondary school	66	81.5%
Grew up with a health professional in the family	34	42.0%
Applied to a medical residency program	78	96.3%
Experienced a significant loss (to death) in his/her life	66	81.5%
The significant loss occurred in his/her adolescence	41	62.1%
The significant loss positively influenced his/her ability to handle death	54	66.6%
Grew up in a household that engaged in spiritual and/or religious practices	77	95.1%
Engaged in religious/spiritual practices	44	54.3%
Cared for a dying patient during medical school training	69	85.2%

Table 2. Frequency and percentage of correct answers about end-of-life care by senior medical students at the UPRSOM, 2017 (n = 81).

Items by categories	n	Percent of corrects
I. General Knowledge		
1. I have the necessary knowledge to manage patients in the end-of-life. (true)	37	45.7%
II. Pain Management		
2. Pain management is one of the most important areas of care in the dying patients. (true)	80	98.8%
3. The use of pain medications can cause constipation in patients. (true)	79	97.5%
4. The principle of double effect justifies the administration of medications to relieve pain even though it may lead to the unintended death by causing respiratory depression. (true)	69	85.2%
II. Psychosocial and Spiritual Aspects		
5. Patients and their families go through stages when facing death. (true)	79	97.5%
6. One of the elements that should be address as part of the end-of-life care is spirituality. (true)	78	96.3%
7. All people go through the same emotional stages in facing the death process. (false)	71	87.7%
III. Palliative and Hospice Care		
8. Palliative care and hospice are the same. (false)	80	98.7%
9. Hospice is a place. (false)	70	86.4%
10. Hospice care is for people who have one year or less to live. (false)	53	65.4%
11. Palliative care is offered only to people who will die. (false)	47	58.0%
IV. Legal and Ethical Issues		
12. Advanced directives and durable powers of attorney are the same. (false)	77	95.1%
13. For advanced directives to be valid, they must be written by a lawyer. (false)	65	80.2%
14. Federal law requires providers participating in Medicare to guide patients about advanced directives. (true)	59	72.8%
15. A person with cognitive impairment cannot make any decisions about the care they want at the end-of-life. (false)	56	69.1%
16. Health plans such as Medicare reimburse physicians for their interventions addressed to discuss advanced care plan with patients. (true)	43	53.1%
17. The advanced directives are effective immediately are signed. (false)	19	23.5%
V. Communication		
18. The clinical information is the most important thing when giving bad news to the patient and family. The emotional aspect is handled later. (false)	79	97.5%
19. The first step to giving bad news to a patient is to know how much knowledge they have of their health condition. (true)	55	67.9%

participants (98.7%) knew that there was a difference between palliative and hospice care. In the legal and ethical category, only 23.5% responded correctly the item on the effectiveness of advanced directives. The communication category presented a pair of statements putting forth ideas that clinical information should be the most important focus when giving bad news to a patient and his/her family and that the emotional aspects of the situation should be addressed later; almost all participants (97.5%) correctly considered this false.

End-of-life care attitudes

In general, study participants showed positive attitudes towards EOLC, as illustrated in Table 3. Almost all participants disagreed with the statements "It is better that the patient does not know that he/she is dying" (93.8% disagreed) and "Geriatric patients should not know the health conditions that may be life-threatening to avoid suffering" (97.5% disagreed). More than half (54.3%) of respondents agreed with the statement "I feel frustration when a patient dies"; almost half (45.6%) neither agreed nor disagreed that they felt anxious when caring for dying patients; and most (91.3%) disagreed with the statement that "Death is a failure of medicine". Fewer than half (48.1%) preferred taking care of adults over taking care of children in the process of dying. Most respondents (90.1%) agreed that physicians should discuss spiritual issues with their patients, and 70.3% agreed that the physician should include the patient and his/her family in the care plan.

Association between EOLC knowledge and socio-demographic characteristics

Male participants more than their female counterparts perceived themselves able to master the management of dying patients (68.3% and 30.6%, respectively; $P < .05$). There were no additional significant differences on the EOLC knowledge scale or items by socio-demographic characteristics. For male students, the odds of self-perceiving having the knowledge to manage dying patients were 2.3 (95% CI: 1.4, 3.6) times as large as the odds for female students (data not shown).

Association between attitudes toward EOLC and socio-demographic characteristics

As show in Table 4, female students favored (97.9%) the discussion of EOLC beyond its clinical aspects more than male students. Students who had lost a significant person (71.2%) felt more comfortable caring for dying patients than did those who had not, as illustrated in Table 5.

Table 3. Frequency and percent distribution of attitudes toward end-of-life care among senior medical students at the UPRSOM, 2017 (n = 81)

Item	Scale		
	Strongly Disagree/ Disagree n (%)	Neither Agree nor Disagree n (%)	Agree/ Strongly Agree n (%)
1. I feel frustration when a patient dies.	13 (16.0%)	23 (28.4%)	44 (54.3%)
2. Death is a failure of medicine.	74 (91.3%)	5 (6.1%)	1 (1.2%)
3. I feel anxious when caring for dying patients.	20 (24.6%)	37 (45.6%)	24 (29.6%)
4. I prefer that others take care of dying patients.	52 (64.2%)	22 (27.1%)	7 (8.6%)
5. When I see patients dying, it reminds me of my own death.	54 (66.6%)	14 (17.2%)	13 (16.0%)
6. It is better that the patient does not know that he/she is dying.	76 (93.8%)	4 (4.9%)	1 (1.2%)
7. Geriatric patients should not know the health conditions that may be life-threatening to avoid suffering.	79 (97.5%)	1 (1.2%)	1 (1.2%)
8. The physician should be limited to discuss the clinical aspects of the patient in care at the end-of-life.	72 (88.8%)	8 (9.8%)	1 (1.2%)
9. Physicians should not discuss spiritual issues with their patients.	73 (90.1%)	6 (7.4%)	2 (2.4%)
10. It is the physician's role to establish a care plan for the dying patient, independently of what the patient of his/her family want.	57 (70.3%)	10 (12.3%)	14 (17.2%)
11. Talking with patients about end-of-life care is a responsibility of subspecialists.	69 (85.1%)	8 (9.8%)	4 (4.9%)
12. I prefer to care for adults in the process of death rather than care for children in the process of death.	12 (14.8%)	30 (37.0%)	39 (48.1%)
13. A child should not die.	18 (22.2%)	31 (38.2%)	32 (39.5%)
14. In general, I feel comfortable taking care of dying patients.	15 (18.5%)	37 (45.6%)	29 (35.8%)

Discussion

Most participants answered many of the items on the knowledge scale correctly, demonstrating that they had the knowledge to carry out EOLC. Participants were well prepared in areas such as pain management and psychosocial and spiritual issues. However, most participants lacked a sense of self-efficacy regarding EOLC. This finding is consistent with those of other studies that suggest that medical students perceive themselves not to have the necessary knowledge or not to be prepared to handle patients at the ends of their lives (12–15).

Female students' self-confidence

There were no significant differences by gender regarding the results on the knowledge scale. This is consistent with the findings of a study in which students who participated no difference by gender in terms of managing patients in EOLC (22). Interestingly, in our study, the female students perceived themselves to be less knowledgeable regarding EOLC compared to the male students. This gender difference has not been documented in the reviewed literature, before now. The reasons that female medical students undervalue their competence in terms of EOLC are not clear, but studies on performance in clinical areas identify social construction as a possible explanation. For instance, it is more

Table 4. Association between attitudes toward end-of-life care and gender among senior medical students at the UPRSOM, 2017 (n = 81).

Item	Scale			*P* value
	Strongly Disagree/ Disagree n (%)	Neither Agree nor Disagree n (%)	Agree/Strongly Agree n (%)	
When I see patients dying, it reminds me of my own death.				
Female	4 (8.1%)	10 (20.4%)	35 (71.4%)	< .05
Male	9 (28.1%)	4 (12.5%)	19 (59.3%)	
The physician responsibility should be limited to discuss the clinical aspects of the end-of-life.				
Female	0 (0.0%)	1 (2.0%)	48 (97.9%)	< .05
Male	1 (3.1%)	7 (21.8%)	24 (75.0%)	
It is the physician's role to establish a care plan for the dying patient, independently of what the patient of his/her family want.				
Female	5 (10.2%)	5 (10.2%)	39 (79.5%)	< .05
Male	9 (28.1%)	5 (15.6%)	18 (56.2%)	

Table 5. Association between attitudes toward end-of-life care and having lost significant people through death among senior medical students at the UPRSOM, 2017 (n = 81).

Item	Scale			*P* value
	Strongly Disagree/ Disagree n (%)	Neither Agree nor Disagree n (%)	Agree/Strongly Agree n (%)	
In general, I feel comfortable taking care of dying patients.				
Not a significant loss	3 (21.4%)	6 (42.8%)	5 (35.7%)	< .05
Significant loss	4 (6.0%)	15 (22.7%)	47 (71.2%)	
I prefer to care for adults in the process of death rather than care for children in the process of death.				
Not a significant loss	9 (64.2%)	1 (7.1%)	4 (28.5%)	< .05
Significant loss	29 (43.9%)	29 (43.9%)	8 (12.1%)	

acceptable for females to express feelings, vulnerability, and humility or to downplay their own competence than it is for males (23); by the same token, it is common for men to exaggerate their competence and performance (24).

It has been well documented that the distribution by gender among students in medical schools has changed over time. An Association of American Medical Colleges (AAMC) report, which includes the years of 2014 to 2019, shows that there has been a gradual increase in the number of women enrolled in medical schools in the United States, including Puerto Rico (25). However, this change has not been observed in terms of faculty members; women occupy fewer teaching positions in medical schools than men do (26). In a 2014 study that highlighted differences by gender in academic ranking, women were substantially less likely than men to be in higher-ranking positions (27). In 2018, women accounted for 16.0% of all medical school deans, 18.0% of all department chairs, and 25.0% of all professors (28). As a result of gender disparity, the following question arises: Is it possible that the lack of female role models affects the self-perceived proficiency of female medical students?

Even though our questionnaire does not include questions about specific elements that can affect the perception of self-efficacy in EOLC, provides relevant findings for the medical school. The reasons for low self-efficacy can be multifactorial and need to be further explored. Additionally, it is important that medical professors be aware of those students with low self-efficacy and, if necessary, refer them to such counseling as might be needed. Psychological issues may affect a given student's willingness to provide and subsequent performance in providing EOLC.

Death experience and frustration

Many of the medical students who took part in our study had provided medical care to dying people, and most of them identified their having experienced a personal loss as having had a positive influence on their dealings with dying patients and relatives. This has not been observed in studies in which fewer than half of the participating medical students had provided care to dying people (1,29,30). Students who had experienced personal and/or professional death losses had positive attitudes and superior knowledge about EOLC (17). Moreover, students with more clinical experience in palliative care may feel more prepared to discuss EOLC with patients and treat the symptoms (e.g., pain) that commonly accompany this stage (31). On the other hand, overexposure to death through the provision of care for dying patients may result in frustration, anxiety, and grief (17,32). Therefore, debriefing a medical student after the death of a patient and providing him or her with training on the management of emotions can be beneficial (33). In fact, talking with peers and significant others and engaging in cognitive avoidance are strategies used by students to cope with the emotions that often arise after the death of a patient (30,32).

Communication

Communication is a fundamental competence in palliative care and EOLC. Most participants recognized the importance of being honest with patients in communications about their health situation and prognosis. They also understood that patients have the right to make decisions about their health and the treatment plans addressing that health. The study participants saw the importance of including geriatric patients in the discussion of EOLC, highlighting the ethical principle of autonomy.

Studies indicate that most health professionals—including physicians (34)—and medical students understand that patients and caregivers should be told the truth about prognosis (35). In addition, for significant others and health professionals, avoiding discussions with patients about death can be an impediment to caring and communicating adequately about their terminally ill status (33). Physicians may avoid having discussions with patients about death for multiple reasons: among them, requests from family members to withhold information, feelings of hopelessness regarding the unavailability of curative treatment, and medical–legal concerns (34, 36).

Spirituality/religiosity is something to consider when addressing patient/family emotions. Most of the students surveyed understood the importance of discussing spiritual aspects as part of medical care. The AAMC recognizes that, to communicate effectively with patients, physicians need to understand how a person's spirituality and culture affect their perceptions of health and illness, particularly their desires regarding EOLC (37).

The death of children

The death of a child was perceived by respondents as difficult to deal with. Also, many respondents were comfortable with the idea of caring for a dying adult but not with the idea of caring for a dying child. This was an unexpected finding since pediatrics was 1 of 3 specialties of most interest among respondents. The literature notes that emotional stress is experienced by a physician clinically managing a dying child (38). The American Academy of Pediatrics calls for the development of clinical policies and standards that "promote the welfare of infants and children living with life-threatening or terminal conditions and their families." Therefore, having physicians with the right EOLC skills is vital to serve children and adults (39).

There are limitations to this study to acknowledge. The study was conducted at a medical school in Puerto Rico, which means that the generalization of our results is limited. Additionally, the survey used in this study included general aspects of EOLC, but there are areas, such as the emotional impact (on medical students) of handling patients at the end of life, that need to be studied, as well. Our questionnaire about attitudes included mainly affective and cognitive elements, the behavioral aspect was not included.

Conclusions

The results of our study showed that senior medical students have adequate knowledge of and positive attitudes towards EOLC. However, it is worrisome that less than half of students (especially, female students) considered they had the necessary knowledge to offer EOLC. Academic officials and medical professors are tasked with ensuring that their medical students acquired the knowledge and skills necessary to provide care to patients in need. A critical aspect of student learning is mastering how to provide effective and compassionate EOLC.

Also, students are responsible for identifying the knowledge, skills, and abilities required for providing EOLC, determining the areas in which they do not feel adequately prepared and using resources to fill the gaps.

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Resumen

Objetivo: Evaluar los conocimientos y las actitudes de los estudiantes de medicina candidatos a graduación de la Universidad de Puerto Rico, Escuela de Medicina con respecto a los cuidados al final de la vida. Metodología: Estudio transversal donde se administró un cuestionario estandarizado de febrero a marzo de 2017 que incluyó escalas de conocimiento y actitudes, e información sociodemográfica. Resultados: Participaron 81 estudiantes con una edad media de 26 años. La mayoría eran mujeres (60.5%; n=49). La mayoría (81.5%; n = 63) respondieron correctamente más del 70% de las premisas en la escala de conocimientos. Sin embargo, menos de la mitad (45.7%; n = 37) se percibieron con los conocimientos necesarios para manejar personas al final de la vida. Más varones que mujeres (68.3% y 30.6%, respectivamente) sintieron que estaban adecuadamente preparados para cuidar pacientes al final de la vida, una diferencia que fue significativa ($p < 0.05$). La mayoría (81.0%; n = 66) habían experimentado la pérdida por muerte de personas significativas, y el 66.0% (n=53) de ellos sintieron que se beneficiaron de esas experiencias para manejar la muerte. Conclusiones: Este estudio muestra que los participantes tenían conocimientos adecuados y actitudes positivas respectos a los cuidados al final de vida, sin embargo creían que carecían de los conocimientos necesarios para ofrecer estos cuidados, especialmente las mujeres. Estos hallazgos sugieren la necesidad de diseñar e implantar estrategias para desarrollar y fortalecer la autoeficacia en los estudiantes de medicina con respecto al manejo de personas al final de la vida.

PID #: ____________

Questionnaire: Knowledge and attitudes of students graduating from medical schools of Puerto Rico toward End-of-Life Care

Thank you for agreeing to take part in this questionnaire to help measure the knowledge and attitudes towards end of life care in graduating medical students. This will only take 10 to 15 minutes of your time and the information collected will be confidential. If you have any questions, please contact Prof. Iraida Salabarría Peña (787)-348-2112.

Knowledge

Instructions: For the following questions please select either **True** or **False**, whichever represents more accurately your answer toward each statement.

	True	False
1. The principle of double effect justifies the administration of medications to relieve pain even though it may lead to the unintended death by causing respiratory depression.	_____	_____
2. Pain management is one of the most important areas of care in the dying patients.	_____	_____
3. The use of pain medications can cause constipation in patients.	_____	_____
4. Opioid medications cause addiction in terminal patients.	_____	_____
5. Patients and their families go through stages when facing death.	_____	_____
6. All people go through the same emotional stages in facing the death process.	_____	_____
7. Palliative care and hospice are the same.	_____	_____
8. Palliative care is offered only to people who will die.	_____	_____
9. Hospice is a place.	_____	_____
10. Hospice care is for people who have one year or less to live.	_____	_____
11. A person with cognitive impairment cannot make any decisions about the care they want at the end of life.	_____	_____
12. The advanced directive are effective immediately are signed.	_____	_____
13. The first step to giving bad news to a patient is to know how much knowledge they have of their health condition.	_____	_____
14. The clinical information is the most important thing when giving bad news to the patient and family. The emotional aspect is handled later.	_____	_____
15. Silence is the most appropriate way to handle crying in patients and families.	_____	_____
16. For advanced directives to be valid they must be written by a lawyer.	_____	_____
17. Federal law requires providers participating in Medicare to guide patients about advanced directives.	_____	_____
18. Advance directives and durable power of attorney are the same.	_____	_____
19. Health plans such as Medicare reimburse physicians for their interventions addressed to discuss advanced care plan with patients.	_____	_____
20. One of the elements that should be address as part of the end of life care is spirituality.	_____	_____
21. I have the necessary knowledge to manage patients in the end of life.	_____	_____

Attitudes

Instructions: For the following statement select either, which ever represents more accurately your answer toward each statement. On a scale of **1 to 5 where 1 is strongly disagree and 5 strongly agree**.

	Strongly disagree		→	Strongly agree	
1. I feel frustration when a patient dies.	1	2	3	4	5
2. Death is a failure of medicine.	1	2	3	4	5
3. I feel anxious when caring for dying patients.	1	2	3	4	5
4. I prefer that others take care of dying patients.	1	2	3	4	5
5. When I see patients dying, it reminds me of my own death.	1	2	3	4	5
6. It is better that the patient does not know that he/she is dying.	1	2	3	4	5
7. Geriatric patients should not know the health conditions that may be life-threatening to avoid suffering.	1	2	3	4	5
8. The physician responsibility should be limited to discuss the clinical aspects of end of life care.	1	2	3	4	5
9. Physicians should not discuss spiritual issues with their patients.	1	2	3	4	5
10. It is the physician's role to establish a care plan for the dying patient, independently of what the patient or his/her family wants.	1	2	3	4	5
11. Talking with patients about end of life care is a responsibility of subspecialists.	1	2	3	4	5
12. I prefer to care for adults in the process of death rather than care for children in the process of death.	1	2	3	4	5
13. Children should not die.	1	2	3	4	5
14. In general, I feel comfortable taking care of dying patients.	1	2	3	4	5

Demographic Data

1. In which school of medicine do you study?

_____ San Juan Bautista Medical School

_____ Ponce Health Sciences University (PHSU)

_____ Universidad Central del Caribe, School of Medicine

_____ Medical Sciences Campus, University of Puerto Rico

2. Age: _______

3. Gender:

_____ F _____ M _____ Others: Specify ______________

4. In which year were you admitted to medical school? _____

5. Where did you study primary school?

_____ Public school _____ Private school _____ Homeschooling

6. Where did you study secondary school?

_____ Public school _____ Private school _____ Homeschooling

7. What is your marital status?

_____ Single _____ Divorced

_____ Married _____ Widower

8. Area of residence?

_____ Rural _____ Urban

9. In your nuclear family (where you grew up) were there physical or mental health professionals? (If no, go to the question # 11)

_____ Yes _____ No

10. Which profession? (Check all that apply)

_____ Physician _____ Psychologist _____ Counselors

_____ Nurse _____ Social worker _____ Others (_______________)

11. Have you applied for admission to a medical residency? (If No, go to question #13)

_____ Yes _____ No

12. Which residence? _____________

13. Have you had deaths of significant others in your life? (If No, go to question # 16)

_____ Yes _____ No

14. In what stage of your life? (Check all that apply)

_____ Childhood _____ Adolescence _____ Adulthood

15. Do you think these experiences have positively influenced your way of handling death?

_____Yes _____No

16. Did you grow up under any religious/spiritual beliefs?

_____ Yes _____ No

17. Do you practice any religious/spiritual beliefs?

_____ Yes _____ No

18. Have you personally cared for dying patients as part of your medical school training?

_____ Yes _____ No

Thank you for your cooperation.

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