Medical Students' Knowledge about End-of-life Decision-Making

Conhecimento de Estudantes de Medicina sobre Tomada de Decisão no Fim da Vida

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KEYWORDS:

– Bioethics
– Medical Ethics
– Medical Students
– Attitude towards Death
– Euthanasia

ABSTRACT

The influence of medical students' knowledge concerning end-of-life care, considering ethical theories and clinical practice, remains controversial. We aimed to investigate medical students' knowledge of bioethical concepts related to moral kinds of death (euthanasia, disthanasia, and orthothanasia) and to analyze the influence of their clinical experience on practicing such approaches in a tertiary hospital in the state of São Paulo, Brazil. We interviewed 180 medical students [distributed in Group 1 (G1) — first to third- year students, and Group 2 (G2) — fourth to sixth-year students] to evaluate the influence of the course on "medical ethics" on ethical theories and clinical practice, using a closed questionnaire. The course on "medical ethics" did not distinguish the groups (P=0.704) in relation to bioethical concepts. Neologisms such as "cacothanasia" and "idiothanasia" were incorrectly viewed as bioethical concepts by 28% of the interviewees. Moreover, 45.3% of the sample considered health care professionals incapable of managing terminally ill patients, especially G2 (29%) as compared to G1 (16.5%, P=0.031). The concept of euthanasia was accepted by 41% of sample, as compared to 98.2% for orthothanasia. Among medical students that accepted ways to abbreviate life (22.9%), 30.1% belonged to G1, and only 16.1% to G2 (P=0.049). These medical students were unfamiliar with common bioethical concepts. Moreover, they considered healthcare professionals incapable of managing terminally ill patients. The ethical ideal of the "good death" reflects better acceptance of orthothanasia by medical students, suggesting a tendency to apply it in their future clinical practice.

PALAVRAS-CHAVE:

– Bioética
– Ética Médica
– Estudantes de Medicina
– Atitude frente à Morte
– Eutanásia.

RESUMO

A influência do conhecimento de estudantes de medicina sobre o manejo com o fim da vida, considerando teorias éticas e aplicabilidade clínica, permanece controversa. Objetivamos investigar o conhecimento de estudantes de medicina sobre conceitos bioéticos a respeito dos tipos morais de morte (Eutanásia, Distanásia e Ortotanásia) e analisar a influência de suas experiências clínicas para praticá-los, em um hospital terciário do estado de São Paulo, Brasil. Nós entrevistamos 180 estudantes de medicina [distribuídos em Grupo 1 (G1) — estudantes do primeiro ao terceiro ano de graduação em medicina e Grupo 2 (G2) — estudantes do quarto ao sexto ano] para avaliar a influência do "curso de ética médica" em teorias éticas e prática clínica, utilizando um questionário fechado. O "curso de ética médica" não diferiu os grupos (P=0.704) sobre os conceitos bioéticos. Neologismos como Cacotanásia e Idiotanásia foram erroneamente considerados como conceitos bioéticos por 28% dos indivíduos. Além disso, 45.3% da amostra consideraram os profissionais de saúde inaptos ao manejo de pacientes terminais, principalmente G2 (29%) comparado a G1 (16.5%, P=0.031). O conceito de Eutanásia foi aceito por 41% da amostra, enquanto Ortotanásia por 98.2%. Dentre os estudantes de medicina que aceitaram maneiras para abreviar a vida (22.9%), 30.1% deles pertenciam a G1 enquanto somente 16.1% a G2 (P=0.049). Estudantes de medicina mostram desconhecimento sobre conceitos clássicos em Bioética. Além disso, consideram os profissionais de saúde inaptos ao manejo de pacientes terminais. O ideal ético considerando a "boa morte" reflete melhor aceitação dos estudantes de medicina pela Ortotanásia, sugerindo tendência em aplicá-la em sua futura prática clínica.

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INTRODUCTION

Several goals have guided end-of-life medical decisions, considering the relief of suffering and improvement of quality of life for terminally ill patients and their families[1-3]. Substantial legal, ethical, and clinical consensus currently exists about end-of-life care, yet myths and misconceptions persist concerning what is ethically and legally permissible[4]. In this case, medical practice in relation to advanced and terminal illnesses remains controversial, although nearly 30 years have transpired since Karen Ann Quinlan's case, the first famous public discussion on end-of-life care[5].

In this context, bioethical concepts were suggested in order to standardize medical practice concerning moral kinds of death. Euthanasia derives from the Greek (eu-thanatos) and literally means "good death". The term has come to refer to the effort to avoid prolonged and useless suffering, considering the relief of pain or other symptoms with a possible life-shortening effect[6]. In contrast, disthanasia (dis-thanatos, "death with difficulty") refers to futile treatment that prolongs the process of dying. In other words, it is medically futile that even with no expectation of cure, the treatment draws out the patient's agony[7]. Between these two is orthothanasia (ortho-thanatos, "normal or natural death"), in reference to the natural process of dying after interruption of futile clinical treatment. These are controversial topics not only in the medical field but also in the social, political, philosophical, and religious domains[8,9].

The debate on euthanasia and assisted suicide has grown remarkably in the last 20 years, attracting widespread attention by medical experts. Analyses on the moral classification of death are common in the literature, taking into account the opinions of health care professionals on bioethical values[3,10-12]. Medical schools in Brazil have included courses on medical ethics in the curriculum. Course objectives include increasing medical students' understanding of ethical terms and standards, as well as dilemmas in clinical settings[13-16]. Given the priorities in medical education, it is thus not surprising that medical students struggle to apply such ethical knowledge to clinical cases and sometimes confuse technical facts, personal or professional values, or clinical consensus with reasoned argument and justifiable clinical ethical decision-making[17]. Some recent studies have found that the curriculum can influence the students' ethical values during courses, considering the concurrent contact with clinical practice[2,18].

In this context, the present study was designed to investigate the medical students' knowledge concerning bioethical concepts related to the moral classification of death (euthanasia, disthanasia, and orthothanasia) and to analyze the influence of their clinical experience in managing such types.

METHODS

A total of 180 medical students from the São José do Rio Preto School of Medicine participated (27 first-year, 26 second-year, 30 third and fourth-year, 27 fifth-year, and 30 sixth-year students). They were matched for gender and age. All individuals received a closed questionnaire, including 22 questions eliciting views on the moral classification of death and performance by health care professionals. Responses were returned anonymously by mail. The survey was conducted from July to September 2004. The study was approved by the Institutional Review Board of the School of Medicine in São José do Rio Preto, São Paulo State, Brazil (case review 302/2004). All subjects were informed in writing about the study, and all signed consent forms.

In Brazil, undergraduate medical school lasts six years, and students enter directly after high school. This medical school's fourth-year curriculum includes a short course on "medical ethics", consisting of lectures and discussions on bioethical concepts. A preliminary analysis considered the general responses by all the students. Next, the subjects were divided into two groups: Group 1 (G1), with first to third-year students, and Group 2 (G2), with fourth to sixth-year students, in order to evaluate the influence of the course on ethical theories in relation to their clinical practice.

Statistical analysis was performed comparing the groups in relation to gender and age using the t-test. Fisher's exact test was used for an exploratory analysis of medical students' knowledge concerning the moral classification of death, considering the absolute frequencies of the responses. Significance was set at $p < 0.05$.

RESULTS

Of the 180 individuals selected for the sample, 170 (94.4%) responded. Ten medical students refused to participate. G1 did not differ statistically (p=0.704) from G2 in relation to total number of correct responses on bioethical concepts such as euthanasia, disthanasia, and orthothanasia (Table 1). Regarding the definition of euthanasia, sixth-year students showed a higher rate of correct answers (93.3%). Meanwhile, fourth-year students showed better knowledge of disthanasia (73.3%).

The analysis of lemmas involving treatment of terminally ill patients and moral classification of death showed that euthanasia was accepted by approximately 41% of medical students. However, 75% (69% in G1 and 80% in G2) did not agree that euthanasia has been practiced by physicians in Brazil. Of the respondents, 7.7% accepted the use of drugs to relieve pain, but with a possible life-shortening effect, and 27.6% agreed with interruption of futile clinical treatment (Table 2). 98.2% of respondents were in favor of terminally ill patients

TABLE 1:
Medical students' views on bioethical concepts concerning moral classification of death

Bioethical concept	*Cacothanasia*		*Disthanasia*		*Euthanasia*		*Idiothanasia*		*Orthothanasia*		*Blank*	
	n	%	*n*	%	*n*	%	*n*	%	*n*	%	*n*	%
"The medical attitude that aims to relieve the pain and indignity of terminally ill patients considering their death."	1	0.6	1	0.6	153	90.0	5	2.9	8	4.7	2	1.2
"…aims to prolong human life, considering death the worst and ultimate enemy, using all means available, regardless of the results."	9	5.3	111	65.3	1	0.6	6	3.5	34	20.0	9	5.3
"...avoids treatments that prolong useless suffering and stops end-of-life care, considering patients in similar situations."	39	22.9	19	11.2	11	6.5	26	15.3	66	38.8	9	5.3
"Characterized as medical futility, considering commercial interests and scientific paradigms."	62	36.5	21	12.4	4	2.3	54	31.8	17	10.0	12	7.0
"… as a priority, aims at quality of life for the terminally ill patient without suffering."	26	15.3	21	12.4	34	20.0	23	13.5	57	33.5	9	5.3
"Natural death, consequently the interruption of support treatment, in the absence of any hope of cure."	15	8.8	19	11.2	57	33.5	20	11.8	50	29.4	9	5.3

TABLE 2:
Medical students' agreement with bioethical concepts and clinical practice

Question	*Totally agree*		*Partially agree*		*Neither agree nor disagree*		*Partially disagree*		*Totally disagree*		*Blank*	
	n	%	*n*	%	*n*	%	*n*	%	*n*	%	*n*	%
"The administration of narcotics that causes two distinct effects, relief of pain and shortening of life, is legally permitted."	13	7.7	80	47.0	23	13.5	32	18.8	20	11.8	2	1.2
"Interrupting methods that prolong the process of dying and avoiding useless suffering of terminally ill patient are legally permitted."	46	27.1	74	43.5	10	5.9	18	10.6	20	11.8	2	1.2
"...euthanasia is a violation of Divine law, as a deliberate and morally unacceptable death..."	20	11.8	33	19.4	25	14.7	50	29.4	40	23.5	2	1.2
"Considering their values and dignity, patients may be treated with respect and, consequently, they have the legal right to choose the circumstances of their own death…"	63	37.1	62	36.5	11	6.5	24	14.1	8	4.7	2	1.2
"Everybody has the right to a dignified life, so the patient has the legal right to choose to die with dignity, even using a possibly life-shortening method..."	39	22.9	70	41.1	12	7.1	30	17.7	17	10.0	2	1.2
"California law allows patients to decide not to receive treatment that might sustain their life or postpone death in a terminal situation…"	46	27.1	69	40.6	25	14.7	22	12.9	6	3.5	2	1.2
"Patients with incurable diseases have the right to know their diagnosis."	106	62.4	50	29.4	9	5.3	3	1.8	1	0.6	1	0.6
"The physician has the responsibility to explain to patients the real situation of their health status…"	85	50.0	60	35.3	14	8.2	8	4.7	2	1.2	1	0.6

n= number of answers

TABLE 3:
Medical students' agreement with ethical theories and their use in clinical practice

Question	*Yes*		*No*		*Blank*	
	n	%	*n*	%	*n*	%
Do you consider physicians and other health care professionals capable of providing adequate treatment and follow-up for terminally ill patients?	90	52.9	77	45.3	3	1.8
From the ethical point of view, does the physician or someone else have the responsibility to practice euthanasia when they are asked to do so by a terminally ill patient in a free and responsible manner?	43	25.3	127	74.7	0	0
Can terminally ill patients die at home?	167	98.2	3	1.8	0	0
Should human life be defended regardless of its quality?	70	41.2	98	57.7	2	1.1
In Brazil, is it legal for a physician to practice euthanasia?	4	2.3	166	97.7	0	0
Do you think a patient has the right to end his or her own life when in terminal condition?	70	41.1	95	55.9	5	3.0
Do you practice any religion?	156	91.8	13	7.6	1	0.6
If you practice a religion, did it influence your response to this questionnaire?	65	38.2	100	58.8	5	3.0

being allowed to die at home, and 2.3% were unaware of any illegal practice of euthanasia in Brazil.

Among the total sample of medical students, 22.9% agreed with ways of abbreviating life (30.1% in G1 and only 16.1% in G2; p=0.049). Moreover, 27% acknowledged the patient's right to instruct the physician on how to act in the case of a terminal condition. Sixty-two percent favored explaining patients' diagnosis to them, and 50% considered this the physician's obligation. However, 45.3% of the sample (16.5% in G1 and 29% in G2, p=0.031; Table 3) considered physicians and other health care professionals unable to properly manage terminally ill patients.

Although 89% stated regularly practicing a religion, only fourth-year of the students felt that it influenced their end-of--life decisions. Among these, 55% stated that euthanasia is a violation of Divine laws, while 19% accepted the idea, despite not following any religious dogma.

DISCUSSION

The analysis of both groups of medical students' bioethical knowledge on moral kinds of death showed their unfamiliarity with the common concepts of euthanasia, disthanasia, and orthothanasia[19-21]. The high frequency of responses concerning the neologisms "cacothanasia" and "idiothanasia" as authentic bioethical terms confirms that short courses in medical ethics do not suffice to orient qualified future professionals in clinical settings, even in a university hospital[9]. This highlights the importance of organizing the curriculum towards better integration between learning and medical practice[17,22], considering the laws in force in Brazil.

The process of dying is not always self-evident in clinical practice. The Terri Schiavo case reveals the controversy and unfamiliarity of moral kinds of death and their actual definitions and legal parameters[24]. Some students in this study had difficulty distinguishing between ethical and social issues, particularly those involving justice and health care allocation[25]. The important task of devising teaching strategies to assist students in integrating their ethical knowledge and enabling them to systematically analyze and manage ethical aspects in clinical practice is still necessary[17,21]. In this context, the discussion on euthanasia and futile medical treatment[26] reveals medical students' insecurity towards end-of-life care.

The higher level of acceptance of euthanasia among first to third-year medical students as compared to fourth to sixth-year students confirms that their ethical reasoning skills change over time, considering the ability to recognize and assess the ethical problems found in clinical practice[2,18,27]. This suggests that contact with terminally ill patients reduces the acceptance of euthanasia. Similar situations have been observed in surveys that included lawyers, social sciences students, or engineers along with physicians and health care professionals[12,28].

In our series, most respondents felt that patients should have knowledge regarding their terminal condition, and that attending physicians should explain their perspective, even though they considered them unprepared for this ethical attitude and for proper clinical management of terminally ill patients[9,21,22]. In this context, one important aspect of providing better care for dying patients is to understand their symptoms and concerns, with a view towards better communication in

the physician-patient relationship[4,29]. This suggests that discussing topics related to death and dying may actually be helpful for many terminally ill patients who are unable to accept their own death, while allaying their related fears and anxiety [30].

Our data suggest that religious affiliation does not directly influence medical students' ethical reasoning on moral classification of death. In this case, half of the respondents stated that religious dogmas had not determined their ethical positions, corroborating Ramírez-Rivera et al.[31] and Cohen et al.[32]. The latter authors concluded that guidance by religious institutions has some influence on end-of-life decision-making but is certainly not blindly accepted by physicians. Most people allow adaptations to particular situations, for instance to the needs and wishes of the dying and considerations of humaneness[3].

In short, these medical students proved to be unfamiliar with common bioethical concepts. Moreover, they considered health care professionals unable to manage terminally ill patients. However, the ethical ideal of the "good death" appears to better reflect the acceptance of orthothanasia, suggesting a tendency to apply it to their future clinical practice.

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AUTHORS' CONTRIBUTIONS

Anielli Pinheiro contributed to the planning of the research, data collection and analysis, discussion of the results, and writing of the article. Marcelo A. Nakazone contributed to the planning of the research, analysis and discussion of the results, and writing of the article. Fernanda S. Leal contributed to the planning of the research, data collection, and analysis of the results. Marcela A. S. Pinhel and Dorotéia R.S. Souza contributed to the analysis of the results and writing of the article. José P. Cipullo contributed with the research planning and coordination and discussion of the results.

CONFLICTS OF INTEREST

The authors had no conflicts of interest.

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