What Do Medical Students Think about Medical Ethics?

UIC-COM Student Medical Ethics Questionnaire

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Abstract

Medical ethics should be an important aspect of the education of every medical student. But do students appreciate or even pay much attention to medical ethics? In an effort to address this question, we assessed, by questionnaire, the opinions of the students of the largest medical school in the United States (the University of Illinois—College of Medicine) regarding a variety of ethical problems. In general, the students were knowledgeable about the issues discussed and expressed ethical concerns about these clinical matters.

The modern interest in medical school ethics curricula can be said to have been initiated by Robert Veatch in 1976.¹ He revealed that 97 of 107 medical schools surveyed had medical ethics programs. He, however, noted that only thirty-one had “major commitments” to medical ethical teaching.

Medical ethics as an integral aspect of medical training did not begin in 1976. Indeed it began with Hippocrates and has been essential

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to medicine ever since. We will 1) briefly outline the history of medical ethics, 2) describe a recent ethics questionnaire study at the University of Illinois at Chicago—College of Medicine (UIC-COM) suggesting an interest on the part of medical students, and, finally, 3) emphasize the contemporary relevance of medical ethics. This project was student conceived and administrated. It is simply a snapshot of medical student attitudes about current ethical questions.

History

While the Code of Hammurabi (1760 B.C.) and the Ebers papyri (1550 B.C.) mention medicine, the first recognized exposition of medical ethics was the Hippocratic Oath (see fig. 1).² Despite subsequent criticism, the latter is acknowledged to be the prototype of medical ethical codes. It is deontological and virtue-based, and it is consistent with Aristotle's *Nicomachean Ethics* and possibly Pythagorean philosophy.³ The Oath was promoted through the Roman and Moslem worlds by Galen and the Nestorians.⁴ The great oriental civilizations had unique medical oaths that emphasized the value of healing and compassionate care.⁵

More modern medical ethical codes were promoted by Thomas Percival's *Medical Ethics* in 1803 and the American Medical Association's (AMA's) first code in 1847.⁶ Both dealt with physician decorum but also emphasized patient care.⁷ There are variations in contemporary medical school oaths, although many model themselves after the Hippocratic Oath.⁸ More recently, the Nazi medical atrocities resulted in the Geneva Convention, the Declaration of Helsinki, and finally the Belmont Report all mandating informed consent and research standards.⁹ Most recently, the Institutional Review Board regulations (1974), AMA code (1985), Association of American Medical Colleges directory (1998), and the Joint Commission on the Accreditation of Hospitals standards (2010) have instituted ethics initiatives that impact medicine.¹⁰

Questionnaire

Materials

There were approximately 480 full-time M1 through M4 students enrolled in the UIC-COM for the 2010–2011 academic year and available to participate. Of these students, 313 students (65 percent) consented to cooperate. The project was approved by the UIC-COM (IRB# 2010-0588). There were 69 M1 participants, 132 M2, 37 M3, and 75 M4 participants. The purpose of the project was described and its voluntary nature was explained (fig. 2).

Methods

A one-page questionnaire (fig. 3) with simple yes or no answers to ten questions was employed. The questions were selected with an effort

377 B.C.	The Hippocratic Oath ^a
322 B.C.	Aristotle's <i>Nicomachean Ethics</i> ^b
300 A.D.	Galen promoted the Oath in the Roman World ^c
1803	Percival's <i>Medical Ethics</i> ^d
1847	First AMA Code ^e
1948	Geneva Convention ^f
1952	Declaration of Helsinki ^g
1974	National Research Service Award Act, Public Law 93-348 ^h
1978	<i>Belmont Report</i> ⁱ
1984	AMA, "Guidelines for Ethics Committees in Health Care Institutions" ^j
1994	Association of American Medical Colleges, <i>Curriculum Directory</i> ^k
2010	The Joint Commission Leadership Chapter 04.02.03 ^l

^a L. Edelstein, "The Hippocratic Oath," *Bulletin of the History of Medicine* 1 supp. (1943): 1–64.

^b Aristotle, *Nicomachean Ethics* (New York: Penguin Books, 2004).

^c Galen of Pergamon, <http://en.wikipedia.org/wiki/Galen>.

^d Thomas Percival, *Medical Ethics* (Manchester, UK, 1803).

^e AMA, *Code of Ethics* (Chicago: American Medical Association, 1847), <http://www.ama-assn.org/resources/doc/ethics/1847code.pdf>.

^f Geneva Convention, <http://www.icrc.org/eng/war-and-law/treaties-customary-law/geneva-conventions/index.jsp>.

^g Declaration of Helsinki, <http://www.wma.net/en/30publications/10policies/B3/>.

^h National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research, *Belmont Report* (Washington, D.C.: Government Printing Office, 1979).

ⁱ *National Research Service Award Act of 1974*, Public Law 93-348 (July 12, 1974), <http://history.nih.gov/research/downloads/PL93-348.pdf>.

^j American Medical Association, Judicial Council, "Guidelines for Ethics Committees in Health Care Institutions," *Journal of the American Medical Association* 253 (1985): 2698–2699.

^k American Association of Medical Colleges, *Curriculum Directory 1998–1999*, 27th ed. (Washington, D.C.: American Association of Medical Colleges, 1998).

^l Joint Commission on the Accreditation of Healthcare Organizations (Oakbrooke Terrace, IL: JCAHO, 2010), RI.01.07.01.

Figure 1 Medical ethical milestones.

to avoid the hot button issues of abortion, euthanasia, and assisted suicide. More contemporary topics were addressed such as genetic testing, sale of transplantation organs, and cosmetic surgery. There was no hidden agenda in these ten questions. An effort was made to involve contemporary and relevant issues (e.g., eBay and "octomom" questions). We wished to assess the students' awareness of these issues and their involvement with the ethical aspects of them.

Results

As noted in table 1, only 1.8 percent of questions were answered as "no response," suggesting that the majority of the students compre-

Medical ethics is becoming ever more relevant for medical students. The availability of genetic testing kits is but one example. We would like to assess the attitudes of our fellow medical students by the use of a simple questionnaire. We request that you answer the following questions. There are not necessarily any correct answers. Some may seem ambiguous, but please give your impression. Simply answer as you think best.

This is a voluntary research project. You may choose not to participate in this research. This will not affect your class standing or grades at UIC. If you decline, return the questionnaire as is. You will not be offered or receive any special consideration if you participate in this research. The faculty advisor is P. Guinan, M.D., who can be reached at 312-768-6035. If you have any questions about your rights as a research subject, you may call the Office for Protection of Research Subjects at 312-996-1711. You will not directly benefit from the research but the research may help shape the UIC-COM's use of the curriculum about ethics.

Figure 2 Ethics questionnaire purpose and explanation.

	YES	NO
1) Should consent be presumed in order to increase the supply of organs available for transplantation?	☐	☐
2) Should organs be allowed to be sold on eBay, in order to increase supply for transplantation?	☐	☐
3) Should fetal genetic testing be required?	☐	☐
4) Should parents be allowed to select an embryo for a negative trait (e.g., deafness)?	☐	☐
5) Does patient autonomy require physicians to prescribe whatever a patient wants?	☐	☐
6) Is cosmetic surgery overutilized?	☐	☐
7) In a life-threatening situation, might a surgeon transfuse a Jehovah Witness who did not consent?	☐	☐
8) Is it ethically acceptable to employ artificial reproductive technology to produce 8 viable pregnancies?	☐	☐
9) Should scarce medical resource allocation favor younger people?	☐	☐
10) Medical ethics is a valuable discipline and should continue to be taught.	☐	☐

Figure 3 Ethics questionnaire.

Table 1 Results of ethics questionnaire

Questions	Responses			Total
	Yes	No	No Response	
1) Allow presumed consent	98 (31%)	211 (67%)	4	313
2) Permit eBay organ sales	20 (6%)	291 (93%)	2	313
3) Require fetal testing	51 (16%)	259 (83%)	3	313
4) Parental embryo selection	107 (34%)	198 (62%)	11	313
5) Complete patient autonomy	2 (1%)	309 (99%)	2	313
6) Less cosmetic surgery	209 (67%)	97 (31%)	7	313
7) Override Jehovah Witness	130 (42%)	178 (57%)	5	313
8) Permit eight fetuses	115 (37%)	191 (61%)	7	313
9) Favor younger patients	140 (45%)	158 (50%)	15	313
10) Medical ethics important	309 (97%)	7 (2%)	2	313

hended and were comfortable in answering the questionnaires. On only three questions was there a greater than 90 percent response of either “yes” or “no” (questions 2, 5, and 10) suggesting a balance of opinion. Except for question 8, statistically significant differences did not occur (Fisher’s Exact Test: 2 sided, p value of <0.025).

Discussion

When the AMA *Code of Ethics* was originally approved (1847), medicine treated, in great part, communicable diseases and trauma. Today medicine is much more complex: molecular biology, genetics, and reproductive technology are a few examples. Correspondingly, medicine today has more issues of an ethical nature than ever before, and medical students should be knowledgeable on these issues. Medical ethics has become a mandated curricular course.

Ethics is about the rightness and/or wrongness of human behavior. Aristotle in his seminal *Nicomachean Ethics* stated that human happiness resulted when an individual acted according to what was appropriate to his nature. Rational individuals know right from wrong: You do not kill the innocent, lie, or steal. Natural law (while denied by some) simply articulates what every person (on attaining the age of reason) knows innately. Natural law dictates that the purpose of medicine is to heal the sick and minimize human suffering. “Do no harm” is the universal medical ethic, attesting to the ability of this ethic to transcend cultures. Medicine is fortunate to have a 2,500-year-old code of ethics in the Hippocratic tradition and articulated in the Hippocratic Oath. Medical students, and indeed all physicians, would be well-advised to read it and take its lessons to heart in their medical practices. Thus,

medicine has been guided by the Hippocratic ethos, which, in its essence, states “primum non nocere.” With the increasing complexity of modern medicine, ethics committees and institutional review boards have become part of medicine; and there has been a drift away from the Hippocratic ethos. It is incumbent on medical students to become aware of these developments.

In 1992, the Joint Commission mandated that all approved hospitals have in place a means of addressing ethics concerns.¹¹ This resulted in what are today’s hospital ethical committees. These deal with many issues including surrogacy, end of life, competency, and “do not resuscitate” questions. Hospital medical staffs now must have a formal mechanism for ethical decision making.¹² More recently, Texas has mandated medical staff arrangements for adjudicating issues of futility when a patient’s wishes clash with the opinion of the medical staff.¹³ The University of Illinois in Chicago Hospital recently had a \$5.6 million bill for a fourteen-month stay of a congenital anomaly patient who could be considered a case of medical futility.¹⁴ These and many other unimagined medical ethical issues will be addressed in the future and confront newly graduated physicians.

The questions asked in this survey were selected to cover a broad spectrum of medical ethical problems that are current and could confront our students as they progress in their studies and calibrate their ethical compasses (e.g., eBay sales of organs, genetic testing, and cosmetic surgery).¹⁵ These issues generated interesting discussion among the participating students. An examination of said discussions would be too lengthy for inclusion in this short paper.

The shortcomings of this study include, among others, the fact that only 65 percent of the student body participated, the uneven sample size across classes (69 M1s, 132 M2s, 37 M3s, and 75 M4s), and the fact that the study was not sufficiently powered to allow detection of small differences.

Notes

¹ Robert Veatch, “Medical Ethics Teaching: Report of a National Medical School Survey,” *Journal of the American Medical Association* 235 (1976): 1030–1033.

² Hammurabi, <http://en.wikipedia.org/wiki/Hammurabi>; Ebers, http://en.wikipedia.org/wiki/Ebers_Papyrus; L. Edelstein, “The Hippocratic Oath,” *Bulletin of the History of Medicine* 1 supp. (1943): 1–64.

³ Aristotle, *Nicomachean Ethics* (New York: Penguin Books, 2004); L. Edelstein, “Professional Ethics of the Greek Physician,” in *Philosophy and Medicine in Ancient Greece*, ed. W.H.S. Jones (Chicago: Ayer Publishing, 1979), 329.

⁴ Galen of Pergamon, <http://en.wikipedia.org/wiki/Galen>; Patrick Guinan, “Christianity and the Origins of the Hospital,” *National Catholic Bioethics Center Quarterly* 4 (2004): 257–263.

- ⁵ M.B. Etziony, *The Physician's Creed* (Springfield, IL: Charles Thomas Publishers, 1973).
- ⁶ Thomas Percival, *Medical Ethics* (Manchester, UK, 1803); AMA, *Code of Ethics* (Chicago: American Medical Association, 1847), <http://www.ama-assn.org/resources/doc/ethics/1847code.pdf>.
- ⁷ AMA, *Code of Ethics*, art. 1, n. 1.
- ⁸ Robert Orr, Norman Pang, Edmund Pellegrino, and Mark Siegler, "Use of the Hippocratic Oath," *Journal of Clinical Ethics* 8 (1997): 377–388.
- ⁹ Geneva Convention, <http://www.icrc.org/eng/war-and-law/treaties-customary-law/geneva-conventions/index.jsp>; Declaration of Helsinki, <http://www.wma.net/en/30publications/10policies/B3/>; National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research, *Belmont Report* (Washington, D.C.: Government Printing Office, 1979).
- ¹⁰ *National Research Service Award Act of 1974*, Public Law 93-348 (July 12, 1974), <http://history.nih.gov/research/downloads/PL93-348.pdf>; American Medical Association, Judicial Council, "Guidelines for Ethics Committees in Health Care Institutions," *Journal of the American Medical Association* 253 (1985): 2698–2699; American Association of Medical Colleges, *Curriculum Directory 1998–1999*, 27th ed. (Washington, D.C.: American Association of Medical Colleges, 1998); The Joint Commission on the Accreditation of Hospitals (2010), R1.01.07.01.
- ¹¹ Glenn McGee, Joshua Spanogle, Arthur Caplan, Dina Penny, and David Asch, "Success and Failure of Hospital Ethics Committees," *Cambridge Quarterly of Health Care Ethics* 11 (2002): 87–93.
- ¹² The Joint Commission (1910), R1.01.07.01.
- ¹³ Texas Advanced Directives of 1999, Proceedings of Baylor University Medical Center (April 13, 2000): 144–147.
- ¹⁴ Deborah L. Shelton, "Conjoined Twins Lose Battle for Life," *Chicago Tribune*, August 13, 2011.
- ¹⁵ J. Patenaude, T. Niyonsenga, and D. Fafard, "Changes in Students' Moral Development During Medical School: A Cohort Study," *Canadian Medical Association Journal* 168 (2003): 840–844.