Attitudes of College Students Toward End-of-Life Issues

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Abstract

INTRODUCTION

Medical care at the end-of-life can be an emotionally and economically demanding experience. About 10-20% of the total health care budget and over a quarter of the Medicare budget in the United States are spent on end-of-life care. Of these Medicare funds, 40% is spent for care given in the last 30 days of life and 50% for treatment in the last 60 days.[1,2] Apart from monetary expenses, there is the emotional toll on patients and their families.

Although every human being will experience death eventually, not all individuals view death or respond to it in the same way. These difference are now becoming more apparent as recent advances in medical technology made it possible to maintain many patients who are terminally ill alive without necessarily improving their quality of life. Several studies have reported on the factors likely to influence the attitudes of patients,[3,4,5,6] the public in general,[7,8,9] and healthcare providers[10,11,12,13,14] toward euthanasia, assisted suicide, advance directives and various end-of-life issues. Apart from one study that surveyed the attitudes of medical students, house staff and faculty physicians toward euthanasia and termination of life-sustaining treatment,[15] the attitudes of young adults toward end-of-life issues were not examined. Healthcare providers are encouraged to discuss end of life issues with their patients while they are still healthy and functional rather than in the context of a terminal illness. Therefore, it is not surprising that an increasing number of young healthy adults are being asked to complete advance directives. This study examines the attitudes of a group of healthy young individuals, undergraduate students, toward end-of-life issues.

METHODS

This is a cross-sectional study that surveyed the attitudes of undergraduate students toward end-of-life care using a structured questionnaire.[16,17] The questionnaire started by an introductory paragraph explaining the concept of a DNR order, followed by questions on whether the respondents would like one or more of 5 medical interventions in case they become seriously ill with a small chance of recovery. These interventions included: (1) ventilator support, (2) artificial nutrition or hydration, (3) hemodialysis, (4) major surgery, and (5) DNR order. The last section included questions related to respondent's gender, study major, ethnic background and religious belief.

Questionnaires were distributed to undergraduate students at the University of Rochester in the spring of 1997. Potential respondents were identified from two sources: students attending three different classes (history of medicine class, and two medical sociology classes) and from a random sample obtained using a random number generator to produce numbers between 271,000 and 277,000 which is the range of the undergraduate students' mail box numbers. Students' participation was voluntary and anonymous.

Results were reported as a mean (± SD) unless specified otherwise. General descriptive statistics were used to define groups. The Chi-square test was used to compare dichotomous data. The two-sample t-test was used to compare groups' means. Significance was defined as $p<0.05$. Statistical analysis was performed using the statistical package Statistica for Windows (Statsoft, Inc., Tulsa, OK 1998).

RESULTS

One hundred and three students from the history of medicine class and 110 students from the sociology classes completed the questionnaire, with a response rate of 100%. Of the 233 mailed questionnaires, 38 were returned with a response rate of 16.3%. Three of these were incomplete and were

excluded from the analysis. Table 1 describes the characteristics of all participants (n=248). Of the total study population (n=248), 36% were males, 57% were Whites, 36% were Catholic, 33% Protestant, 11% were Jewish and 14% Atheist. Forty percent, 29%, 12%, and 3% chose a social science, natural science, humanities, or nursing as their major, respectively.

Figure 1

Table 1. Characteristics of study subjects

Characteristic	Number (n = 248)	Percent
Gender		
Male	90	36.3
Female	158	63.7
Ethnic background		
White	135	57.0
Asian	36	15.0
African-American	27	11.5
Hispanic	13	5.5
Not indicated	24	10.0
Religious faith		
Catholic	61	35.7
Protestant	57	33.3
Jewish	18	10.5
Atheist	24	14.0
Other	12	7.0
Intended major		
Social science	98	40.0
Natural science	65	28.5
Humanities	30	12.2
Nursing	7	2.8
Double major	6	2.4

Overall, respondents were more likely to choose one or more of the life sustaining measures (ventilator support, artificial nutrition or hydration, hemodialysis, and/or major surgery) and less likely to choose a DNR order (60% vs. 47%, p= 0.059). There were no differences between male and female respondents in their choices in relation toward end of life medical care (table 2).

Figure 2

Table 2. Respondents' choice of various life-sustaining options in the case that they were seriously ill by gender

Questions	Males (n=90)	Females (n=158)	P-value
	Yes (%)	Yes (%)	
1. Ventilator or other artificial means	50.0	40.1	0.1321
2. Artificial nutrition or hydration	67.4	64.3	0.6253
3. Kidney dialysis	61.1	56.7	0.4975
4. Major surgery	75.6	68.8	0.2582
5. DNR order	44.0	49.0	0.4393

The choices of respondents toward end of life medical care varied in relation to their ethnic background (table 3). Respondents could be classified into four ethnic groups: Whites (n=135), African-Americans (n=27), Hispanics (n=13), and Asians (n=36). Twenty four respondents did not specify their ethnic background and were not included in the analysis. Since the group "Asians" consisted of people from all the diverse parts of Asia, including the Near, South, and Far East, it was not used in the analysis. Overall, African-Americans were the group most likely to request life-sustaining measures (72%) followed by Whites (59%) and then Hispanics (47%). On the other hand, African Americans were the group least likely to ask for a DNR order (30%) followed by Whites (52%) and then Hispanics (62%).

Figure 3

Table 3. Respondents' choice of various life-sustaining options in the case that they were seriously ill by ethnicity

Questions	White (n=135)	African-American (n=27)	Hispanic (n=13)	P-value
	Yes (%)	Yes (%)	Yes (%)	
1. Ventilator/other artificial means	42.2	57.7	38.5	0.3167
2. Artificial nutrition or hydration	69.6	70.4	50.0	0.3629
3. Kidney dialysis	58.5	70.4	53.8	0.4634
4. Major surgery	65.2	88.9	46.2	0.0132
5. DNR order	51.8	29.6	61.5	0.0703

Table 4 describes the respondents' end of life choices in relation to their religious beliefs. The respondents' religious beliefs could be grouped into the following groups: Catholics (n=61), Protestants (n=57), Jewish (n=18), Atheists (n=24), and other (n=12). The group labeled 'other' was not considered in the analysis because the variety of religions that composed it making it a heterogeneous group. Atheists were the group least likely to approve life sustaining measures toward end of life (52%), followed by Catholics (59%), Protestants (63%) and finally Jewish (64%). Atheists were the group most likely to request a DNR order (63%) and Jewish respondents were the group least likely to request a DNR order (28%).

Figure 4

Table 4. Respondents' choice of various life-sustaining options in the case that they were seriously ill by religion

Questions	Catholic (n=61)	Protestant (n=57)	Jewish (n=18)	Atheist/none indicated (n=24)	P-value
	Yes (%)	Yes (%)	Yes (%)	Yes (%)	
1. Ventilator/other artificial means	44.3	45.6	50	33.3	0.7301
2. Artificial nutrition or hydration	65.0	71.9	66.7	66.7	0.8771
3. Kidney dialysis	57.4	64.9	61.1	41.7	0.2803
4. Major surgery	67.2	70.2	77.8	66.7	0.8420
5. DNR order	49.2	47.4	27.8	62.5	0.1712

The study majors taken by students were classified as social science (n=98), natural science (n=65), humanities (n=30), nursing (n=7), other (n=39), or double major (n=6). These last two groups were heterogeneous and thus were not used in the analysis. Students with a nursing major were the least likely to ask for any of the four life-sustaining treatments (25%) compared to students in social science (62%), natural

science (60%), or humanities majors (56%). Also, they were the group most likely to support a DNR order (71%, compared to 43%, 52%, and 40% for social science, natural science, and humanities majors respectively) (table 5).

Figure 5

Table 5. Respondents' choice of various life-sustaining options in the case that they were seriously ill by major

Questions	Social science (n=98)	Natural science (n=65)	Humanities (n=30)	Nursing (n=7)	P-value
	Yes (%)	Yes (%)	Yes (%)	Yes (%)	
1. Ventilator or other artificial means	46.4	40.0	46.7	0	0.1048
2. Artificial nutrition or hydration	68.0	64.1	63.3	28.6	0.2101
3. Kidney dialysis	59.8	61.5	53.3	28.6	0.3391
4. Major surgery	74.2	73.8	60.0	42.9	0.1586
5. DNR order	42.8	52.3	40.0	71.4	0.3016

DISCUSSION

In this study, undergraduate students' choices toward end of life medical care were influenced by their ethnic background. African-American students were more likely to request life-sustaining measures and less likely to request a DNR order than either Whites or Hispanics. Similar findings were reported by Kamel et al. [18] who studied 108 nursing home patients and found that while 51% of White patients had DNR orders written, only 17% of African-American patients had such orders in their charts ($p<0.05$). Several other studies have shown that African-Americans opt for more aggressive care than Whites toward end of life.6;[19,20,21,22] Several factors may help explain this observation. First, African Americans tend to be more religious than Whites.[23] In one study many terminally ill African American patients said that they would continue all measures until the end because they felt it was wrong to stop and believed that miracles can occur at any time.[24] Second, African Americans highly value their elders, long life (regardless of suffering) and the will to survive.[25] In addition, there are reports to indicate that African American patients receive less intense medical care[26] and are more likely to be negatively stereotyped than other patients.[27] These issues, combined with the perception of some African American patients that their hospital stay was too short and the care less than satisfactory[28] may lead them to believe that having a DNR order written for them may negatively affect the medical care they receive.

The available literature on Hispanics only describes Mexican Americans. Although Mexican Americans are the largest group of Latino patients, they do not necessarily represent all Latino patients.[29] Several issues are important to keep in mind while discussing life support measures with Mexican-American patients. First, Mexican Americans believe that there is always hope that the patient may get better, so to stop life support may cause great feelings of guilt for the family. In addition, Mexican-Americans believe that enduring sickness is a sign of strength. Some studies suggest that Mexican Americans my have more fear of dying than other ethnic groups.23 In addition, more that 85% of Mexican Americans are Catholic and against anything that hastens death.[30]

It is important to note that when dealing with patients from different ethnic backgrounds that there is a broad spectrum of acculturation. Newer generation have higher degrees of acculturation and are more influenced by the Western culture. This is primarily pertinent to respondents from African American and Hispanic origins. In this study the views of non-White participants may have been influenced by the Western culture and do not necessarily represent the views of older members of the same ethnic background. In addition, clinicians should be aware that although there are ethnic beliefs and characteristics ascribed to each group, there are differences within groups and there is uniqueness to each person. Thus, one has to be on guard against stereotyping any person by his/her group affiliation.

Atheists were the religious group least willing to accept life sustaining treatments and most likely to request a DNR order. On the other hand, Jewish respondents were the least likely to want DNR order written for them. Atheists, who are free from any religious convictions, base their views on other objective factors, and this might make them more inclined to accept DNR. Storch and Dossetor, in a survey of the general public, showed that atheist patients were the most reluctant to want prolongation of life regardless of its quality.[31] The Jewish ethical principle of the sanctity of life may explain why Jewish respondents were the least willing to request DNR orders.[32,33]

Respondents majoring in nursing were the most reluctant to accept life prolonging treatments and most supportive of DNR orders. Nursing students were probably the most familiar with the concept of DNR, and thus approached the questions more from a health care provider's point of view. During their studies, nursing students gain much clinical exposure to patients and get practical experience about end-of-life issues and thus may have a better understanding of the concept of DNR and the limitations of modern medicine.

This study showed that the attitudes of healthy young adults toward end of life issues were affected by their ethnic background, religious beliefs, and educational experience. Although the results from this study may help provide

insight into the basis for patient's preferences, clinicians should avoid stereotyping and should take individualized approach in discussing end of life choices with each patient.

An important limitation of this study is that the subjects were chosen from one suburban university in New York State, which may limit the generalization of the results to all healthy younger adults. In addition, the low response rate among potential subjects may have biased the results, since non-respondents may have held different views from those who responded.

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