Attitudes Of College Students Toward DNR Orders

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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 younger population, undergraduate students, toward DNR orders.

METHODS

In this cross-sectional study, the attitudes of undergraduate students toward DNR orders were surveyed using a structured questionnaire.[16,17] The questionnaire started with a paragraph explaining the concept of DNR, followed by a series of questions on whether the respondent would favor writing a DNR order for 7 hypothetical patients who differ in age and degree of illness severity. The last section included questions related to respondents' gender, study major, ethnic background and religious beliefs.

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 (a 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). This study was funded by the Barth-Crapsey Award for Research in the Social Sciences and Humanities.

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
Ethnicity		
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
Other	12	7.0
Atheist / none indicated	24	14.0
Study major		
Social science	98	40.0
Natural science	65	28.5
Humanities	30	12.2
Nursing	7	2.8
Double major	6	2.4

Table 2 shows the percentages of subjects favoring ordering DNR for each of the 7 hypothetical patients. In general respondents were more likely to support ordering DNR for terminally ill patients compared to patients in a coma (62% vs. 24%, $p<0.01$), and for the two patients who were 60 years or older compared to the other 5 younger patients (51% vs. 36%, $p<0.05$).

Figure 2

Table 2: Respondents' attitudes toward ordering DNR

Scenario	Respondents (n=248)
	Yes (%)
50 year old in coma after stroke	27.8
22 year old in coma after drug overdose	11.7
30 year old in coma after unsuccessful surgery	19.0
60 year old in coma after unsuccessful surgery	30.6
40 year old terminally ill with cancer	52.4
75 year old terminally ill with cancer	63.7
24 year old terminally ill with AIDS	55.6

There was no difference between male (38%) and female (37%) respondents in their frequency of support of DNR orders for all 7 hypothetical patients. Both gender groups showed a similar frequency of support for DNR orders with regard to illness severity (26% of males and 20% of female respondents favored a DNR order in patients with coma while 54% of male and 59% of female participants favored a DNR order in patients with terminal illness) (table 3).

Figure 3

Table 3: Respondents' attitudes toward DNR orders by gender

Scenario	Males (n=90)	Females (n=158)	P value
	Yes (%)	Yes (%)	
50 year old in coma after stroke	31.1	25.9	0.369
22 year old in coma after drug overdose	15.6	9.5	0.154
30 year old in coma after unsuccessful surgery	22.2	17.1	0.323
60 year old in coma after unsuccessful surgery	35.6	27.8	0.196
40 year old terminally ill with cancer	50.0	53.8	0.589
75 year old terminally ill with cancer	60.0	65.8	0.345
24 year old terminally ill with AIDS	53.3	57.0	0.495

Table 4 shows the relationship of students' major to attitudes about DNR orders. The majors taken by the students could be classified into 6 groups: social science (n=98), natural science (n=65), humanities (n=30), nursing (n=7), others (n=39), and double majors (n=6). The last two groups were heterogeneous and thus were not included in the analysis. Students with a major in nursing were more likely than those in social, natural science and humanities majors to favor ordering DNR for the 7 hypothetical patients (63%, 39%, 40%, 40%, respectively).

Figure 4

Table 4: Respondents' attitudes toward DNR orders by study major

Scenario	Social science (n=98)	Natural science (n=65)	Humanities (n=30)	Nursing (n=7)	P value
	Yes (%)	Yes (%)	Yes (%)	Yes (%)	
50 year old in coma after stroke	21.4	30.8	23.3	42.9	0.346
22 year old in coma after drug overdose	4.1	12.3	16.7	28.6	0.035
30 year old in coma after unsuccessful surgery	11.2	18.5	26.7	57.1	0.0075
60 year old in coma after unsuccessful surgery	25.5	24.6	46.7	71.4	0.021
40 year old terminally ill with cancer	50.0	52.3	50.0	71.4	0.714
75 year old terminally ill with cancer	63.3	61.5	66.7	85.7	0.690
24 year old terminally ill with AIDS	54.1	58.5	46.7	85.7	0.330

Table 5 shows the relationship of students' ethnic background to attitudes toward DNR. Respondents were classified into 4 ethnic groups: Whites (n=135), African-Americans (n=27), Hispanics (n=13), and Asians (n=36). Twenty-four students did not respond to this question and were therefore not included. Since the Asian group consisted of people from all the diverse parts of Asia, including the Near, South, and Far East, it was not used in the analysis. Compared to White and Hispanic respondents, African Americans were less likely to favor DNR orders for the 7 hypothetical patients (42%, 45%, 28%, respectively).

Figure 5

Table 5: Respondents' attitudes toward DNR orders by ethnic background

Scenario	White (n=135)	African-American (n=27)	Hispanic (n=13)	P value
	Yes (%)	Yes (%)	Yes (%)	
50 year old in coma after stroke	27.4	18.5	46.2	0.189
22 year old in coma after drug overdose	11.1	11.1	23.1	0.376
30 year old in coma after unsuccessful surgery	21.5	14.8	30.8	0.423
60 year old in coma after unsuccessful surgery	34.1	33.3	38.5	0.950
40 year old terminally ill with cancer	61.5	29.6	61.5	0.0069
75 year old terminally ill with cancer	72.6	48.1	69.2	0.029
24 year old terminally ill with AIDS	63.7	40.7	46.2	0.047

Respondents were classified into 5 groups based on their religious beliefs. These included Catholics (n=61), Protestant (n=57), Jewish (n=18), Atheist (n=24), and others (n=12). The last group was a heterogeneous group comprised of subjects with a variety of religious beliefs and was thus not considered in the analysis. Atheists were most supportive of DNR (48%) for the 7 hypothetical patients, followed by Catholic and Jewish students (41% each), and lastly Protestants (32%) (table 6).

Figure 6

Table 6: Respondents' attitudes toward DNR orders by religion

Scenario	Catholic (n=61)	Protestant (n=57)	Jewish (n=18)	Atheist (n=24)	P value
	Yes (%)	Yes (%)	Yes (%)	Yes (%)	
50 year old in coma after stroke	29.5	24.6	22.2	41.7	0.418
22 year old in coma after drug overdose	14.8	12.3	5.6	12.5	0.782
30 year old in coma after unsuccessful surgery	18.0	19.3	22.2	33.3	0.456
60 year old in coma after unsuccessful surgery	37.7	26.3	33.3	41.7	0.473
40 year old terminally ill with cancer	55.7	43.9	61.1	66.7	0.227
75 year old terminally ill with cancer	68.9	47.4	72.2	70.8	0.0465
24 year old terminally ill with AIDS	59.0	47.4	72.2	70.8	0.122

DISCUSSION

In this study, undergraduate students' choices toward DNR orders were influenced by their ethnic background. African-American students were less likely to request DNR orders compared to White and Hispanic students. 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. 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] In addition, there are reports to indicate that African American patients receive less intense medical care[25] and are more likely to be negatively stereotyped than other patients.[26] These issues, combined with the perception of some African American patients that their hospital stay was too short and the care less than satisfactory [27] 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.[28] Several issues are important to keep in mind while discussing DNR orders 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.[29]

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.

Our results showed that Atheists respondents were the religious group most supportive of DNR orders in all 7 hypothetical patients. Similar findings were reported by Storch and Dossetor who surveyed the general public, showed that atheist patients were the most reluctant to want prolongation of life regardless of its quality.[30]

Respondents majoring in nursing were the 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 demonstrated that the attitudes of healthy young adults toward DNR orders were affected by patients' characteristics (severity of illness and age) as well as by their own characteristics (study major, ethnic background and religious belief). Although the results from this study may help provide insight into the basis for the attitudes of younger adults toward DNR orders, clinicians should avoid stereotyping and should take individualized approach in discussing DNR 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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References

1. Gillick M. The high costs of dying. Arch Intern Med 1994; 154:2134-2137.
2. Emanuel EJ. Cost savings at the end of life. What do the data show? JAMA 1996; 275:1907-1914.
3. Lo B, McLeod GA, Saika G. Patient attitudes to discussing life-sustaining treatment. Arch Intern Med 1986; 146:1613-1615.
4. Meyers RM, Lurie N, Breitenbucher RB, et al. Do-not-resuscitate orders in an extended care study group. J Am Geriatr Soc 1990;38:1011-1015
5. Tulsky JA, Cassileth BR, Bennett CL. The effect of ethnicity on ICU use and DNR orders in hospitalized AIDS patients. J Clin Ethics 1997;8:150-157
6. Caralis PV, Davis B, Wright K, et al. The influence of ethnicity and race on attitudes toward advance directives, life-prolonging treatments, and euthanasia. J Cli Ethics 1993;4:155-165
7. Hague SB, Moody LE. A study of the public's knowledge regarding advance directives. Nursing Economics 1993; 11:303-307 and 323.
8. Seidlitz L, Duberstein PR, Cox C, et al. Attitudes of older people toward suicide and assisted suicide: an analysis of Gallup poll findings. J Am Geriatr Soc 1995; 43:993-998.
9. Fried TR, Rosenberg RR, Lipsitz LA. Older community-dwelling adults' attitudes toward and
10. J Am Geriatr Soc 1995; 43:645-649.
11. Sprung CL, et al. The society of critical care medicine ethics committee. Attitudes of critical care medicine professionals concerning foregoing life-sustaining treatments. Crit Care Med 1992; 20:320-326.
12. Shapiro RS, Derse AR, Gottlieb M, et al. Willingness to perform euthanasia. A survey of physician attitudes. Arch Intern Med 1994; 154:575-584.
13. Payne K, Taylor RM, Stocking C, et al. Physicians' attitude about the care of patients in the persistent vegetative state: A national survey. Ann Intern Med 1996; 125:104-110.
14. Steinberg MA, Najman JM, Cartwright CM, et al. End-of-life decision-making: community and medical practitioners' perspectives. Med J Aust 1997; 166:131-135.
15. Caralis PV, Hammond JS. Attitudes of medical students, house staff, and faculty physicians toward euthanasia and termination of life-sustaining treatment. Crit Care Med 1992; 20:683-690.
16. Walker RM, Schonwetter RS, Kramer DR, et al. Living wills and resuscitation preferences in an elderly population. Arch Intern Med 1995; 155:171-175.
17. Caralis PV, Hammonds JS. Attitudes of medical students, house staff, and faculty physicians toward euthanasia and termination of life-sustaining treatment. Crit Care Med 1992;20:683-690
18. Frankl D, Oye RK, Bellamy PE. Attitudes of hospitalized patients toward life support: A survey of 200 medical inpatients. Am J Med 1989;86:646-648
19. Kamel HK, Phlavan M, Malekgoudarzi. DNR order in the nursing home: frequency and determining factors. J Investigative Medicine 2000;48(5):295A
20. Kellogg FR, Ramos A: Code status decision-making in a nursing home population: processes and outcomes. J Am Geriatr Soc 1995;42:113-121.
21. Murphy ST, Palmer JM, Azen S, et al. Ethnicity and advance care directives. J Law Med & Ethics 1996;24:108-117.
22. Shepardson LB, Gordon HS, Ibrahim SA, et al. Racial variation in the use of do-not-resuscitate orders. J Gen Intern Med 1999;14:15-20.
23. Port FK, Wolfe RA, Hawthorne VM, Ferguson CW. Discontinuation of dialysis therapy as a cause of death. Am J Nephrology 1989;9:145-149
24. Kalish R, Reynolds DK. Death and ethnicity: A psychocultural study. Los Angeles, Calif, University of Southern California Press 1976,pp 200-221
25. Klessing J. The effect of values and culture on life-support decisions. West J Med 1992;157:316-322
26. Yergan J, Flood AB, LoGerfo JP, Diehr P. Relationship between patient race and the intensity of hospital service. Medical Care 1987;25:592-603
27. Johnson SM, KurtzME, Tomlisnon T, Howe KR. Student's stereotypes of patients as barriers to clinical

decision-making. J Med Edu 1986;61(pt 1):727-735
28. Blendon RJ, Aiken LH, Freeman HE, Corey CR. Access to medical care for black and white American- A matter of continuing concern. JAMA 1989;26:278-281
29. Schur C, Bernstein A, Berk M. The importance of distinguishing Hispanic subpopulations in the use of medical care. Med Care 1987;25:627-641
30. Dubois MJ. The dying human in Christian philosophy, In de Vries A, Carmi A (Eds): the Dying Human. Ramat Gan, Tel Aviv, Israel, Turtledove Publishing, 1979, pp 275-285
31. Storch JL, Dossetor J: Public attitudes towards end-of-life treatment decisions: implications for nurse clinicians and nursing administrators. CJONA 1994;7:65-89.

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