Preferences for Different Life-Sustaining Treatments Among Elderly Persons in Israel

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The purpose of this study was to assess elderly persons' wishes regarding the use and choice of different life-sustaining treatments (LST). Data were collected from a random sample of 987 Israeli elderly persons, aged 70+. Interviewees were questioned about their wishes for artificial feeding, mechanical ventilation, and cardiopulmonary resuscitation in five different illness conditions. Results indicate that significantly more of the respondents would want to prolong their life in mild rather than in severe illness conditions. Significant differences are found, however, among subgroups who differ on religiosity, gender, education, and health status. The findings also indicate that in all five illness conditions, elderly persons are more likely to want cardiopulmonary resuscitation than artificial feeding. This is explained by the fact that the public's main source of information is television dramas, and that there is a lack of communication about the use of LST among physicians and patients and their families.

The current situation regarding the use of life-sustaining treatments (LST) in severe illness conditions is often a source of physical and mental anguish for the terminally ill and their families. It also causes ethical, medical, legal, and economic dilemmas for physicians and policy makers in Western countries. The increase in medical expenses, with a relatively high percentage (about 30%) spent on treatments during the last year of life (Lubitz and Riley, 1993), and the low quality of these prolonged lives (Cartwright, 1991) raise economic and ethical questions. Clear social guidance regarding the use of LST is lacking because dominant social values such as the sanctity of life, quality of life, and the right for self-determination are involved, and are in conflict.

The strategy presently undertaken in some Western countries is to focus on the right of patient self-determination and to avoid the issue of sanctity of life. One example is the procedure of offering patients the opportunity to sign a "do not resuscitate" (DNR) directive. This strategy depends on the physician's initiative to involve the patient and/or his/her family in LST-related decisions.

Two major problems are reported in the literature regarding this arrangement: First, physicians tend to avoid talking with patients about restricting LST even in countries where hospitalized patients are allowed to sign a DNR directive as a routine procedure. Furthermore, even when such a directive exists, a significant percentage of physicians ignore it (Conners et al., 1995). Their behavior is even more conspicuous in countries such as Israel, where DNR orders, given by physicians, are not discussed with patients, and are not inserted in patients' medical records (Carmel, 1996). Another problem is related to the finding that patients and their families have unrealistic beliefs about the effectiveness of LST. Medical reports demonstrate low probabilities of survival and severe complications for elderly persons undergoing cardiopulmonary resuscitation (CPR). Nonetheless, elderly patients and their families overestimate the effectiveness of CPR (Mead and Turnbull, 1995; Murphy et al., 1994) and, therefore, tend to avoid signing DNR directives.

Perceptions regarding the use of different LST, in our view, are a product of perceived natural basic needs and social/religious values. The position of the leading Jewish religious authorities is that in clearly terminal conditions CPR can be withheld but not food, fluid, and oxygen (Steinberg, 1994). Israeli physicians actually behave accordingly: they are more likely to report supplying fluid and nutrition to terminally ill patients than CPR (Carmel, 1996). It is expected, therefore, that people would want more LST such as artificial feeding and oxygen, and less CPR.

Considering the ethical, economic, and social dilemmas that are involved in decisions about the use of LST, differences among different subgroups in the population are expected. A negative association between religiosity and pro-euthanasia attitudes, and willingness to withhold the use of LST is consistently reported (Caddell and Newton, 1995; Cohen-Mansfield, Droge, and Billig, 1992; Faunce and Fulton, 1968; Jorgenson and Neubecker, 1980–1981; Preston and Williams, 1971). So, too, is a positive association between education and these variables (Caddell and Newton, 1995; Danis et al., 1988; Schonwetter et al., 1990). These are the only consistent findings reported in the literature. Inconsistent findings are reported with regard to associations between gender and the willingness to prolong life (Klopfner and Price, 1978; Preston and Williams, 1971), age (Jorgenson and Neubecker, 1980–1981; Klopfner and Price, 1978; Preston and Williams, 1971), and health status (Cohen-Mansfield, Droge, and Billig, 1992; Danis et al., 1988; Maguire, 1974). The inconsistent findings indicate weak associations and/or represent the current complexity in the terminology of concepts relating to terminating or prolonging life. Concepts range from passive euthanasia — permitting a patient to die by avoiding the use of LST at the end of life — to active euthanasia, doing something that brings about a patient's death.
Information about the wishes of the Israeli public concerning these issues is lacking. This study focuses on elderly people because they are objectively and subjectively most likely to have to deal with such questions. The three goals of the study were to find out (a) whether Israeli elderly distinguish among different LST; (b) whether they have different preferences regarding the use of LST in different illness conditions; and (c) whether the wish to prolong life differs in different subgroups of elderly persons.

**METHODS**

**Sample**

The study was conducted on a random sample of Israeli Jews aged 70 or older, drawn from the records of the Israeli Institute of National Insurance (NI), which include all Israelis who receive a monthly payment from the Institute. All Israeli elderly citizens (women age 60 and over and men age 65 and over) are eligible for this payment except for elderly people who receive payments from other countries.

Data collection proceeded in the following steps: First, a letter was sent to the sampled persons explaining the purpose of the study. Next, they were contacted by telephone in order to schedule an interview. People for whom telephone numbers could not be found were visited in person. If a person could not be found after two visits, or because of other reasons could not, or did not want to participate in the study, another elderly person who lived on the same block, was 70 years or older, and of the same gender and immigration status (immigrated before or after 1988) was substituted. These measures were taken in order to maintain the sample size of 1000 persons and still conform to the original sample in terms of demographic characteristics and geographic distribution.

Personal interviews at the subjects' homes (N = 987) were conducted between March and October 1994 by trained interviewers. This sample comprised 697 persons from the original NI lists and 290 substitutes. Forty-three percent of the dropouts could not be located; 30.5 percent refused to participate; 11.7 percent were physically or mentally incapable of participation; 3.5 percent were reported dead; 6.8 percent had language problems; 4.5 percent were interviewed, but their questionnaires were excluded from the study due to doubts about the reliability of one interviewer.

A comparison between the sample and the population of elderly persons based on the Statistical Abstracts of Israel (1994) showed that the sample represents the total population of elderly persons with regard to age and ethnic origin. However, it does not represent the population on gender. Nationally, women comprise 56.4 percent of the population, whereas they are only 47.4 percent of the sample (chi-square = 41.99, p < .01).

The average age of the elderly in the sample was 77.5 (SD = 5.4) with a range of 70 to 101; 22 percent had 13 or more years of formal education; 78.2 percent were born in Western countries, 3.2 percent were born in Israel, and 18.6 percent were born in Asia or North Africa; 56 percent were married or lived with a partner; 90.2 percent lived in urban settlements, and most (59%) lived in the central region of Israel.

**Measures**

The questionnaire included a short mental test based on Katzman et al.'s (1983) and Pfeiffer's (1975) scales. Only persons who showed satisfactory orientation in time and place continued to be interviewed. The interview lasted from one hour and 30 minutes to two hours.

Wishes for LST were measured by asking respondents about their attitudes toward three types of LST in five different illness conditions, as follows:

- **Condition A**: In your current illness condition, without knowing what the results of the interventions will be.
- **Condition B**: If you had cancer and the doctor told you that half (50%) of the patients with this disease have a chance to live 5 years or more.
- **Condition C**: If you had cancer and knew and felt that the disease was spreading and your condition was deteriorating, but that there were still chances for temporary improvement.
- **Condition D**: If you were in an irreversible condition of being severely mentally impaired (such as having Alzheimer's disease).
- **Condition E**: If you were in a physically irreversible condition, being bedridden and incontinent.

The three life-sustaining treatments were defined for the respondents as follows:

- **Artificial feeding**: When a person cannot swallow, or has mouth problems, or vomits or has other digestive problems, fluid food is given through a tube which is inserted into the stomach or through the nose directly into the digestive system.

- **Mechanical ventilation**: When a person's lungs fail and he/she cannot breathe, connection to a breathing machine may be required. This machine pumps air in and out of the lungs through a tube that is inserted into the mouth or nose into the lungs, and does the work of breathing for the patient, who is then unable to speak.

- **Cardiopulmonary resuscitation**: If a person's heart stops beating, doctors can sometimes make it start again. They do this by pushing on the chest, forcing air into the lungs, giving medicines in the veins, and giving electrical shocks to the chest. Often after the heart starts beating the person has to be attached to a breathing machine.

All three interventions used to keep the person alive can cause much inconvenience and sometimes suffering. It is hard to predict the outcome of such interventions and how well a person will do after them.

Based on the results of an exploratory factor analysis two indices were built, one on the average score of the 6 answers given for the 2 mild illness conditions (A, B), and the second
on the average score of the 9 answers given for the 3 severe illness conditions (C, D, E). Cronbach’s alpha for these indices were .93 and .97, respectively.

Sociodemographic variables included age, gender, education, marital status, and ethnic origin (Western — if born in American or European countries, and Eastern — if born in Asian or North African countries).

Religiosity was measured by 11 items that were structured according to three dimensions: General belief was measured by the following 8 items: (1) How would you rank the strength of your religious belief in the different stages of your life: (1) during childhood, (2) during adolescence, (3) as an adult, (4) at old age? Each of the four items was followed by a 5-point scale from 1 = no religious belief to 5 = very strong belief. (2) At times of suffering and distress, to what extent do you find comfort in religion? 1 = I am not religious, so religion doesn’t help me, 2 = my religious belief does not help me at all, 3 = my religious belief helps me a little, 4 = my religious belief helps me quite a lot, 5 = my religious belief helps me very much.” (3) How often do you turn to God with a prayer or a personal request?” Answers ranged from 1 = very often to 5 = never. (4) How do you describe yourself today?” was followed by answers from 1 = totally secular to 5 = very orthodox. (5) Was the home in which you were brought up? 1 = completely secular . . . 5 = very orthodox.” (In questions 7 and 8 Reform and Conservative Jews were coded 2.) Religious practice was measured by: (9) “Do you go to the synagogue? 1 = every day, 2 = only on Saturdays, holidays and family events, 3 = only during holidays and family events, 4 = only during family events, 5 = never.” (10) “To what extent do you eat kosher food?” Answers ranged from 1 = do not eat kosher food to 5 = always. Religious social influence was evaluated by the question: (11) “Do you live in a religiously observant neighborhood, town or settlement?” Answers ranged from 1 = not at all observant to 5 = very observant. The items were presented in the questionnaire in a mixed order. Some of the items were adopted from Hoge (1972) and Krause (1993), and adapted to the Jewish religion.

An exploratory factor analysis resulted in one construct: the theoretical concepts were not empirically distinguished by the analysis. As a result, all items were combined into one Jewish Religiosity Scale (JRS). The score on the index is the sum of the 11 items. The higher the average score — the more religious is the person. Internal consistency analysis of these 11 items yielded a Cronbach’s alpha of .93. A dichotomous variable was constructed by dividing the scores into “religious” (above the mean = 28.57, and median = 28.33 — 28.58) and “nonreligious.”

Having a severe illness. — Respondents were asked (after their responses for the LST choices) whether they are at present in one of the severe conditions (conditions C or E) or suffer from another similarly severe disease. If the answer was positive, it was coded as 1. The scores for this measure were 0 = not severely ill, and 1 = severely ill. Forty persons reported being severely ill.

RESULTS

Wishes regarding LST in the five illness conditions are presented in Table 1. In each of the five conditions the wish for CPR is significantly stronger than the wish for artificial feeding (p < .001). In the current illness condition, 52 percent want CPR while only 37 percent want artificial feeding (have a score of 4 or 5 on a 5-point scale); in the condition of cancer with 50 percent survival, 44 percent versus 27 (respectively); in the condition of metastatic cancer, 32 percent versus 28; in the condition of severe mental illness, 25 percent versus 22; and in the condition of severe physical illness, 25 percent versus 23 percent. After conducting the Bonferroni correction for multiple comparisons, differences among responses regarding wishes for the three kinds of LST within the first two conditions are statistically significant (p < .01), displaying a trend toward wanting mechanical ventilation relatively more than artificial feeding but less than CPR. The results were similar when separate analyses were conducted on men and women. These findings indicate that people differentiate among the different LST.

The table also shows that willingness to receive LST declines with increasing severity of the illness condition. This finding is also statistically significant in the comparison of the mean scores of the two indices evaluating wishes for LST in mild and severe illness conditions (2.89, SD = 1.50 versus 2.21, SD = 1.42, t = 15.32, p < .001, paired t-test). The difference between these scores is also significant when comparisons are made within each subgroup (after a correction for multiple comparisons — see Table 2).

Table 2 presents differences among subgroups with regard to the will for LST in mild and severe illness conditions. The findings show that men want LST more than women, persons of Eastern origin more than persons of Western origin, the less educated more than the more educated, those who have a partner more than the single, those who are relatively healthy more than those who have a severe illness, and the religious more than the secular. No significant relationship was found between the wishes for LST and age.

Table 1. Wishes for LST in Five Illness Conditions (N = 987); Mean and (SD)

<table>
<thead>
<tr>
<th>Illness Condition</th>
<th>Artificial Feeding</th>
<th>Mechanical Ventilation</th>
<th>CPR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current</td>
<td>2.73 (1.71)</td>
<td>2.93 (1.75)</td>
<td>3.26 (1.50)</td>
</tr>
<tr>
<td>Cancer — 50% survival</td>
<td>2.70 (1.71)</td>
<td>2.77 (1.74)</td>
<td>2.95 (1.74)</td>
</tr>
<tr>
<td>Metastatic cancer</td>
<td>2.34 (1.64)</td>
<td>2.36 (1.65)</td>
<td>2.47 (1.70)</td>
</tr>
<tr>
<td>Mental — severe</td>
<td>2.11 (1.56)</td>
<td>2.17 (1.60)</td>
<td>2.19 (1.60)</td>
</tr>
<tr>
<td>Physical — severe</td>
<td>2.17 (1.56)</td>
<td>2.18 (1.60)</td>
<td>2.23 (1.62)</td>
</tr>
</tbody>
</table>

*p < .001* indicates a statistically significant difference (paired t-test) between the scores on artificial feeding and CPR in the same illness condition.

*p < .01* indicates a statistically significant difference (paired t-test) between the scores on mechanical ventilation and CPR in the same illness condition.

*p < .05* indicates a statistically significant difference (paired t-test) between the scores on artificial feeding and mechanical ventilation in the same illness condition.
Because of intercorrelations among some of these variables, as for example, between ethnic origin and education, which are both indicators of social class in Israel, multiple regression analyses were conducted comparatively on the two illness conditions. In these analyses religiosity and education were treated as continuous variables. The results in Table 3 show that the best predictors of the will for LST in severe illness conditions are religiosity, gender, having a severe illness, and education. Religiosity and being severely ill are also significant predictors of wishes in mild illness conditions. A comparison of determinants of wishes in the two illness conditions (bs) did not reveal any significant difference. The whole set of variables explains more variance in severe illness conditions than in mild illness conditions. It explains, however, a modest amount (8% and 11%) of the total variance of both measures.

**DISCUSSION**

The purpose of this study was to investigate wishes regarding the use of different LST in different illness conditions among elderly Israeli persons. The results indicate that significantly more of the elderly would want to prolong their life in mild illness conditions, including having cancer with a relatively good prognosis, than in severe illness conditions. This finding, which is repeated in all the studied subgroups, indicates a consensus about restricting the use of LST in conditions with low quality of life. Similar findings are reported in the United States (Ainslie and Beisecker, 1994; Cohen-Mansfield, Droge, and Billig, 1992). Significant differences are found, however, in different subgroups: religious elderly want LST more than the secular, men more than women, the less educated more than the more educated, and the relatively healthy more than the severely ill.

**Table 2. Sociodemographic Characteristics and Wishes for Life-Sustaining Treatments**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mild Illness Conditions</th>
<th>Severe Illness Conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Men</td>
<td>3.02 (1.50)</td>
<td>2.43 (1.50)</td>
</tr>
<tr>
<td>Women</td>
<td>2.75 (1.49)*</td>
<td>2.04 (1.34)**</td>
</tr>
<tr>
<td>Ethnic origin</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eastern</td>
<td>3.39 (1.50)</td>
<td>2.79 (1.55)</td>
</tr>
<tr>
<td>Western</td>
<td>2.78 (1.48)**</td>
<td>2.12 (1.38)**</td>
</tr>
<tr>
<td>Education</td>
<td></td>
<td></td>
</tr>
<tr>
<td>≤11 years</td>
<td>3.01 (1.53)</td>
<td>2.46 (1.52)</td>
</tr>
<tr>
<td>≥12 years</td>
<td>2.74 (1.46)*</td>
<td>1.97 (1.27)**</td>
</tr>
<tr>
<td>Marital status</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Living with a partner</td>
<td>3.03 (1.47)</td>
<td>2.38 (1.46)</td>
</tr>
<tr>
<td>Being single</td>
<td>2.72 (1.52)*</td>
<td>2.08 (1.39)*</td>
</tr>
<tr>
<td>Religiosity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Religious</td>
<td>3.13 (1.50)</td>
<td>2.58 (1.52)</td>
</tr>
<tr>
<td>Secular</td>
<td>2.66 (1.46)**</td>
<td>1.92 (1.27)**</td>
</tr>
<tr>
<td>Health status</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not severely ill</td>
<td>2.93 (1.49)</td>
<td>2.28 (1.45)</td>
</tr>
<tr>
<td>Severely ill (n = 40)</td>
<td>1.87 (1.36)**</td>
<td>1.50 (0.88)*</td>
</tr>
</tbody>
</table>

*p < .01; **p < .001.

**Table 3. Unstandardized (b) and Standardized (Beta) Regression Coefficients Predicting Wishes for LST in Mild and Severe Illness Conditions**

<table>
<thead>
<tr>
<th>Independent Variables</th>
<th>Mild Illness Conditions</th>
<th>Severe Illness Conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>−.135 (.107)</td>
<td>−.289 (.100)*</td>
</tr>
<tr>
<td>Eastern origin</td>
<td>.256 (.139)</td>
<td>.108 (.132)</td>
</tr>
<tr>
<td>Education</td>
<td>−.040 (.033)</td>
<td>−.092 (.031)</td>
</tr>
<tr>
<td>Being single</td>
<td>−.196 (.107)</td>
<td>−.128 (.100)</td>
</tr>
<tr>
<td>Religiosity</td>
<td>.020 (.005)</td>
<td>.028 (.004)</td>
</tr>
<tr>
<td>Severely ill</td>
<td>−1.028 (.234)</td>
<td>−.758 (.219)</td>
</tr>
</tbody>
</table>

R² = .11

*p < .05.

The significant association found between religiosity and willingness to prolong life is in congruence with the basic Jewish belief that life is sacred and should be preserved at all cost (Rosner, 1991). It also supports previous findings in Western countries (Caddel and Newton, 1995; Cohen-Mansfield, Droge, and Billig, 1992; Faunce and Fulton, 1968; Jorgenson and Neubecker, 1980–1981; Preston and Williams, 1971). These accumulated findings indicate that religiosity within all three Western religions — Protestant, Catholic, and Jewish — is associated with a will to prolong life in any illness condition.

Seale and Addington-Hall (1995) also found that women are less likely than men to want to prolong their life in any illness condition. This finding may be partly explained by findings of previous studies in Israel (Kark et al., 1996) and in other Western countries (Verbrugge, 1989), which show that women rank themselves lower than men on indicators of well-being including health and satisfaction with life.

Our finding that the less educated want to prolong life more than persons with higher education supports previous reports (Caddel and Newton, 1995; Danis et al., 1988; Schonwetter et al., 1990). Because associations between the willingness to prolong life and sociodemographic variables and health status are explained in terms of current well-being and quality of life, the combination of findings regarding gender, health status, and education raises the question of consistency. While the findings regarding women and the current illness condition are in accordance with this thesis, it is interesting that people of lower social class (as measured by education and ethnic origin), in spite of their lower standard of living and assumed quality of life, want LST more than elderly of higher social classes. It might be that the less educated are less aware of the problems related to the prolongation of life by using LST, and/or have a stronger faith in physicians and in the effectiveness of modern medicine than the more educated. These findings indicate that the explanation of wishes for LST is more complicated than the
assumed relation to quality of life and religious beliefs, and, therefore, should be further studied.

A basic question often raised with regard to wishes for the use of LST is whether people’s wishes are stable over time. A related question is whether people who become ill have the same wishes as those they expressed for hypothetical illness conditions when they were healthy. The findings of this study lend indirect support to the stability argument by showing that persons who are currently severely ill want to prolong their life significantly less than the nonseverely ill, which is in accordance with the difference found in answers given by the whole sample to the hypothetical mild versus the severe illness conditions. Our planned follow-up study will render a more thorough response to the stability question.

The results of this study also indicate that elderly persons differentiate among the different LST. In all illness conditions they are more likely to want CPR than artificial feeding. This finding, which is also reported by Cohen-Mansfield, Droge, and Billig (1992) regarding elderly hospitalized patients in the U.S.A., contradicts our expectation that because eating is a basic need, it would be wanted most often by the elderly. It also contradicts the leading Jewish religious authorities’ position that in clearly terminal hospitalized patients in the U.S.A., contradicts our expectations when they were healthy. The findings of this study use of LST is whether people’s wishes are stable over time. A one-time operation which either succeeds or fails. This people’s belief that while artificial feeding and oxygen are physicians, who in the same illness conditions are more often women. Artificial feeding and oxygen (Steinberg, 1994), and the current behavior of Israeli countries (Mead and Turnbull, 1995; Murphy et al., 1994).

Elderly patients’ and relatives’ views in this regard do not accord with the difference found in answers given by the whole sample to the hypothetical mild versus the severe illness conditions. Our planned follow-up study will render a more thorough response to the stability question.

The differentiation that elderly people make among different LST is more conspicuous in the mild illness conditions than in the severe illness conditions. A similar finding is reported in the United States (Cohen-Mansfield, Droge, & Billig, 1992). This is probably due to the fact that a high percentage among them do not want any intervention to prolong life in severe illness conditions. The opposite is reported among physicians who do not differentiate among the three LST in mild illness conditions (using all of them similarly), but do differentiate among them in the severe conditions (Carmel, 1996).

These findings indicate lack of knowledge of the public about the poor prognosis and possible complications following CPR of elderly persons (Murphy et al., 1994). The discrepancy between physicians and the public regarding the potential benefits of CPR is probably pertinent regarding other LST as well, and may be a source of conflict at the time of decision making. Israeli physicians report about such conflicts with patients’ families, who, according to their reports, are more often involved than the patients in LST decisions (Carmel, 1996). More research regarding LST-related issues among all the involved parties might clarify current misunderstandings.

This study was conducted on elderly Jewish persons in Israel. However, similar findings are reported in studies conducted in Canada and the U.S.A. regarding preferences for different LST in different illness conditions, and relationships between religiosity, education, and gender and the will to prolong life. This indicates that elderly persons in Western countries face similar realities concerning the issue of artificial prolongation of life. Therefore, in spite of their cultural differences, they respond similarly to these realities.

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