Family Practice Residents' Attitudes Toward Organ Donation

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Shortage of organs for transplantation has been attributed in part to negative attitudes of medical personnel. As the demand for organ donations increases, it is likely that family physicians may encounter with increasing frequency situations in which they are in some way involved with the families of potential donors. This study was designed to assess residents' attitudes toward organ donation. Overall attitudes were positive, with a mean attitude score of 1.275 (SD 1.415) where 0 = very favorable and 9 = very unfavorable. At the same time, however, concerns regarding premature declaration of death, feelings of the potential donor's family, and cost or benefit of organ donation were identified as well. Nearly one half the residents thought they had little knowledge about organ donation or transplant. Residents' feelings about donating their own organs were most predictive of their opinion of organ donation in general. Only 25 percent of residents had signed an organ donor card and had it witnessed. How much residents knew about organ donation and how they thought their own families felt were the best predictors of whether they had signed the donor form.

Advances in medical technology have led to a dramatic increase in the demand for organs for transplantation. Transplant of a larger number and greater variety of organs has been made possible because of new surgical techniques, advances in tissue typing, and the development of immunosuppressive drugs such as cyclosporine. In most instances organs are obtained from individuals who are neurologically dead but in whom cardiopulmonary integrity has been artificially maintained.[1,2]

Although scientific progress has made the possibility of successful organ transplantation more common, the shortage of organs for transplant has become more pronounced. According to a 1982 estimate, out of 20,000 neurologically dead patients who were potential donors, only 2,500 actual donations were made.[3] Although there are many explanations for this phenomenon, attitudes of medical staff can directly affect organ donation efforts. One of the major difficulties cited in obtaining organs for transplantation has been attitudes of the medical community and general public.[4] Organ donation often creates a complex psychological milieu for medical personnel involved in organ procurement. The circumstances are often highly emotional, creating discomfort for medical personnel to the extent that the issue of organ donation is sometimes avoided.[4]

Stark and colleagues[5] report a study in which 26 potential organ donors were identified, but only eight donations occurred. The main reason cited for five of the eight donations was favorable attitude of medical staff and family combined. Staff attitudes were cited as influencing families to consent in the remaining three cases. In six instances for 18 of the potential donors, the major factor precluding organ donation was found to be negative attitudes of physicians and in two instances the physician failed to approach the family at all.

Even when attitudes toward organ donation are positive, the organ procurement process may cause stress for those involved. Sophie et al[6] describe a situation in which nurses working in an intensive care unit, although accepting the validity of brain death and approving of organ donation in general, experienced considerable stress in situations where there was potential for organ donation.

Despite the national acceptance of the Uniform Anatomical Gift Act,[7] such factors as religious doctrine, basic beliefs, or values may influence physicians' attitudes as

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well as attitudes of the potential donor's family toward organ donation. Physicians' own ambivalence toward organ donation may be exacerbated by interactions with grieving family members, especially if physicians generalize the patient's family's response to how physicians feel their own family might respond.

Though usually not actively involved as a member of the transplant team, family physicians may more often find themselves as the major nonfamily member involved in the process of organ procurement. Family physicians may more often be placed in the position of initiating the process by approaching surviving family members, explaining organ donation, and perhaps even obtaining consent. The degree of comfort and conviction as well as knowledge the family physician possesses regarding organ donation can affect the way the physician approaches the family or whether the family is approached at all.

Resident training programs are designed to prepare family physicians to manage effectively a variety of emotional and medical problems experienced by patients; however, organ donation and organ procurement may be a situation for which residents are not adequately prepared. Although knowledge about organ donation is important, of perhaps more importance is the resident's attitude toward it. This study was conducted to determine factors influencing their attitudes and to assess the extent to which their personal attitudes influence advice they may potentially give patients of families about organ donation.

METHODS

The subjects were 64 residents in five midwestern family practice training centers. Residents attending regularly scheduled behavioral science seminars were asked by the behavioral scientist at each site to fill out a questionnaire regarding their feelings about organ donation. Organ donation was specified as cadaver organs rather than living donors. Residents were assured that anonymity of responses would be maintained. For this reason no demographics were included on the questionnaire.

The questionnaire, a modification of one used in a previous survey,[8] was divided into four parts. The first section was a free-response format in which residents were given $1\frac{1}{2}$ minutes to list general thoughts or feelings they had regarding organ donation. The free-response format was designed to elicit general belief statements that could be compared with general level of responses noted in remaining portions of the questionnaire.

The second portion of the questionnaire consisted of four 10-point semantic differential scales. The semantic differential technique was constructed to yield general attitude scores toward (1) concepts of organ donation, (2) perceptions of attitudes of residents' own families, and (3) perceptions of people in general toward organ donation. Bipolar adjectives chosen as mediating agents were good–bad, beneficial–harmful, wise–foolish, and favorable–unfavorable.

Items in the next section of the questionnaire consisted of bipolar 10-point scales ranging from "strongly agree" to "strongly disagree." These items addressed residents' assessment of their own level of information about organ donation and assessed their intentions of donating their own organs. The final section of the questionnaire compared residents' stated attitudes and intentions to the degree of action. Items in this section assessed whether they had themselves signed an organ donor card, and if they had, whether the card had also been signed by two witnesses. These final items required a yes or no response.

The free-response section of the questionnaire was tabulated and analyzed separately from other questionnaire items. Two independent judges (one family physician and one behavioral scientist) were asked to rate responses listed on questionnaires as reflecting positive, negative, or neutral feelings about organ donation. These ratings were obtained using a card sort. Each judge was given a deck of five-by-eight cards, each of which contained one response that had been listed on a questionnaire. For purposes of utilization and because it may be argued that salient beliefs are generally listed first,[9] only the first five responses for each questionnaire were used for analysis. Judges were then asked to sort the cards into categories as listed above. Interrater reliability was calculated as the number of agreements divided by the total number of agreements plus disagreements.[10] Interrater reliability was calculated at .80.

The remainder of questionnaire responses were analyzed in three ways: first, measures of central tendency and dispersion were obtained for each item; second, intercorrelation of selected items were calculated; and finally, stepwise multiple regressions were run to determine the variables most predictive of residents' attitudes and intentions with regard to organ donation.

RESULTS

Fifty-one of the 64 residents (79 percent) completed the questionnaire. Attendance was not taken at the seminar at which questionnaires were distributed; consequently, it is not known whether the 13 residents failing to complete the questionnaire were absent or unwilling to participate.

The majority of free responses listed by residents were rated as positive by the judges. Responses in the positive category tended to consist of global statements such as

TABLE 1. SUMMARIES OF STEPWISE REGRESSION ANALYSES

Step Variables in Equation	R^2	F	P for Added Variable
Dependent variable: What I think about organ donation			
How I feel about donating my organs	.480	44.39	.0001
Dependent variable: Advice to patient about donating organs			
How people feel about organ donation	.483	42.05	.0001
Dependent variable: I intend to donate organs			
1. How I feel about donating my organs	.512	50.43	.0001
2. How people feel about organ donation	.570	31.16	.0155
Dependent variable: I signed organ donor form on license			
1. How family feels about organ donation	.147	8.25	.0061
2. I know little about organ donation	.261	8.29	.0098

"beneficial to mankind," "commendable," "noble," and "an opportunity to help others." Other more specific statements listed in this category reflected benefits to the individual such as "extends a person's life," "provides a second chance for someone," and "enhances the quality of life."

Neutral statements tended to be more procedural than evaluative such as, "time can determine whether or not it's done," and "more publicity would help people know about it." Although the majority of responses were positive or neutral, nearly 25 percent of resident responses reflected negative feelings toward organ donation. Almost all negative responses were expressions of concern about premature declaration of death in order to harvest organs and concern for the feelings of the family of the donor. Some concerns were also expressed regarding the cost-benefit ratio of organ donation and transplant.

The four semantic differential scales were combined to form one measure for each of the next item categories. Consistent with the level of positive response elicited by the free-response format, residents' attitudes toward organ donation were positive (mean = 1.275, SD = 1.415) where 0 = very favorable and 9 = very unfavorable. Ninety percent (n = 46) of the respondents felt favorable about donating their own organs (mean = 1.529, SD = 1.793), with 70 percent stating that they intended to donate their organs; however, only 17 of the residents had actually signed the anatomic gift form on the back of their drivers' licenses. Of those residents signing the form, only 13 had also had two witnesses signing the card. Nearly one half of the residents (n = 24) said they knew very little about organ donation, and 26 residents said they would not know how to set the process in motion.

Intercorrelation of selected items indicated how residents' beliefs related to how they thought others felt about organ or body donation; the nine of 16 correlations that were statistically significant at the .05 level indicate a high degree of congruence between residents' own attitudes and the attitudes they attributed to their families and advice they would give patients. For example, residents' attitudes toward organ donation correlated significantly with the attitudes they attributed to their families ($r = .65$, $P < .001$) and with the advice they would give their patients about organ donation ($r = .57$, $P < .001$). The questionnaire variables were then used in stepwise multiple regression to determine those variables most predictive of residents' attitudes and intentions toward organ donations. In each of these analyses, variables were included if they passed the requirement that their semipartial contribution to prediction be significant at the .05 level, and would have been later dropped if their continued contribution to prediction had failed to be significant at the .10 level. These criteria were chosen to reflect the exploratory nature of the research. As shown in Table 1, only residents' feelings about donating their own organs were predictive of their opinion of organ donation in general, and their perception of how people must feel about organ donation was most predictive of the advice they would give patients on that issue. With respect to residents' intentions to donate their organs, how they felt about donating their own organs, and their perception of how most people felt about donating their own organs were significant predictors. Finally, how much residents knew about donation was the best predictor of whether the residents had signed the organ donor form on the back of their drivers' licenses. Residents who knew more about organ donation and whose families had a positive attitude were more likely to have signed the organ donor form.

DISCUSSION

Results at first glance indicate that the negative attitudes toward organ donation as reported in the literature are not the attitudes of the group of family practice residents

included in the study. The very nature of attitude is evaluative in character, and most residents appeared to be on the positive side of the evaluative dimension as well as favorably disposed to organ donation. Attitudes are structured psychological tendencies, however, and consist of cognitive, affective, and behavioral components.[10] Whereas the cognitive component consists of perceptions and beliefs, and the affective component consists of feelings, the behavioral component consists of actions. Although the relationship between attitude and behavior is a complex one, it may be argued that a more accurate measure of attitude is in what one does rather than in what one says. It is interesting to note that even though the majority of residents expressed very favorable attitudes toward organ donation, only 25 percent had completed all the steps necessary to donate their own organs. Although it might be argued that one's own behavior does not necessarily dictate patient management, one might also question the strength of conviction when people do not "practice what they preach."

The other factor that must be considered, of course, is that attitudes have consequences for behavior only to the extent that they are aroused by appropriate situational cues. Not signing or having had signatures on the donor card witnessed may be more a reflection of lack of stimulus in the environment for such action rather than lack of commitment on the issue.

The extent to which positive responses reflect a tendency to answer according to perceived social desirability may also account for the discrepancies between the number of favorable responses and the number of persons who had actually taken action to donate their own organs. The anonymous nature of the questionnaire, however, might help to decrease this tendency.

Although results indicate an overall favorable attitude toward organ donation, several other findings warrant further discussion. The free-response format elicited several categories of resident concern that should be addressed. Clarification of declaration of death, appropriate approach to family members, and the issue of cost, although not alleviating the type of stress discussed by Sophie et al,[6] could certainly serve to reduce it. Informational sessions addressing technologic aspects of organ donation and steps outlining the procedures to be taken when there is a potential organ donor, as well as various legal issues, could help to decrease resident anxiety by replacing possible misconceptions with facts. In addition to information issues, the potential emotional upset that may be experienced by physicians when working with families of potential donors, or when involved with donors themselves, should be acknowledged and viewed as a normal human reaction.

CONCLUSIONS

The extent to which responses of participants in this study are typical of resident responses as a whole cannot be determined. Findings suggest that there are issues that might at least be explored, however. The degree to which expressed attitude is reflective of commitment to action is unclear. Likewise, even in the event of positive attitudes, there appears to be a lack of general knowledge regarding specific aspects of organ donation, especially those aspects of process and procedure. In addition, concerns elicited in the free-response format regarding premature declaration of death, family feelings, and cost and benefit should certainly be addressed. Helping residents learn how and when to approach families of potential organ donors may also be of benefit.

As technology changes, so does medical practice. Keeping abreast of these changes, resident-training programs have the opportunity to update educational programs to include training for situations and procedures that residents are likely to encounter in practice. Organ procurement may be a difficult emotional situation for all involved regardless of positive attitudes toward organ donation. Providing adequate training and discussion about organ donation may, however, decrease the stress and discomfort that a resident may feel in such a situation.

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