

Public Attitudes Toward Cadaveric Organ Donation A Survey in Ahwaz

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Introduction: The aim of this study was to evaluate the attitudes of the residents of Ahwaz toward organ donation after brain death.

Materials and Methods: A total of 1000 people between 15 and 70 years of age were selected by cluster sampling in Ahwaz, south-west of Iran. A questionnaire was designed about the attitudes of the interviewees toward organ donation after brain death by themselves and by their family members, demanding compensation for organ donation, and the need for consent or testimony.

Results: Of the participants, 75% were pro organ donation, while 22% were against it and the remaining 3% had no specific idea. Age, sex, and occupation did not influence the attitudes; however, the ethnicity, educational level, economic status, and having a loved one in need of organ transplantation significantly increased the willingness of these people for organ donation ($P < .05$). Regarding the issue of demanding compensation for organ donation, 27% of the participants were in favor of the idea and 73% disagreed. A higher proportion of the participants with higher educational levels believed in organ donation without any consent or testimony ($P = .02$).

Conclusion: According to our study, many people are pro organ donation after death. It is necessary to have a regular program for these people to give them the opportunity to register and receive a donation card. For the people who do not have the tendency for the matter, we had better try to increase their knowledge by educational programs and provide sufficient information.

Keywords: organ transplantation, brain death, cadaveric transplantation, living donor, survey

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INTRODUCTION

Scarcity of donated cadaveric organs is the first problem in organ procurement. More than 50 000 people are in the waiting list of kidney transplantation in the United States, while less than 9000 cadaveric grafts are usually available.⁽¹⁾ This is especially important in candidates for receiving the vital organs such as the heart, the liver, and the lung. Most of these patients die without receiving transplantation. In addition, although there are other replacement therapies such as dialysis for end-stage renal disease (ESRD), the significantly better outcome of

kidney transplantation emerges organ procurement for these patients, too.⁽²⁻⁴⁾

If all available cadaveric donors were accessible for transplantation by organ procurement efforts, the supply of the donated organs would increase only 60% to 80%.^(5,6) For increasing the supply, we should consider all the possibilities such as changes in the criteria of suitable donors and public education. Lack of knowledge among people is one of the most important problems in the progression of this planning, especially in developing countries⁽⁷⁾; however, most of the Islamic, Christian, Jewish, Hindu, and

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Buddhist religious leaders support transplantation of the organs.⁽⁸⁾ One of the factors that must be regarded for promotion of organ procurement is general education for changing the negative attitudes of people toward organ donation from a dead person. In most of the southeast Asian countries, organ donation is understood as a Western concept and is not accepted.⁽⁷⁾ About half of the organs eligible for donation usually cannot be used due to the disinclination of the deceased patient's family. Some other reasons include inability for making immediate decisions and some religious and ethnical beliefs. Even the attitude of the health care personnel needs to be changed.⁽⁹⁾ They have an important role and should be aware of organ procurement policies and be educated enough for contacting the family of the dead person.⁽¹⁰⁾

Another factor is the appropriate definition of brain death and legal frame works for cadaveric organ donation. Most of the developing countries such as Pakistan, Bangladesh, and Malaysia do not have such acts.⁽¹¹⁾ In 1995, cadaveric organ donation was legally accepted in India.⁽¹²⁾ In Iran, a regulation was passed in March 6, 2000, and has been put into action since October 13, 2001.

Finally, the last factors are the financial and medical care supports. Organ transplantation from cadaveric donors is more expensive than that from living ones. On the other hand, access to intensive care unit and equipped laboratories for tissue typing plays a decisive role.⁽¹³⁾ In our country, the main source of kidney allograft is the living donor (mostly unrelated), and recently, cadaveric donor constitutes a portion, yet very small. The outcome of kidney transplantation from living donor is better⁽¹⁴⁾; however, in our country, most donors have financial interests. Thus, there is a high risk of misbehavior and ethical issues are still a matter of concern. Accordingly, the national health policy has changed opting for cadaveric transplantation. After resolving legal bans,

many kidney transplantation centers in Iran have commenced cadaveric transplant, one of which was the Center for Kidney Transplantation of Ahwaz (Jondishapour) University of Medical Sciences. In an effort to supply cadaveric transplantation, we have planned to advocate cadaveric donation. As a first step, we designed this study to evaluate the attitude of the people of Ahwaz toward organ donation after brain death.

MATERIALS AND METHODS

In this survey, 1000 residents of Ahwaz were selected through cluster sampling for interview. The city was firstly divided into 3 zones according to the ethnicity of the residents (Arab, Persian, and Lor). According to the available maps and the population in each zone, the streets, blocks, and houses were randomly selected. By reference to the houses in each zone, the questionnaire was filled out for each person between 15 and 70 years who consented to participate in the study.

Brain death was explained as definite death of the brain despite other live organs without any hope for improvement and the impending change into complete death (death of the brain and other organs) within few hours, days, or months. A definite death was explained as the traditional and legal concept of death. The interviews were done face to face by a trained person. The questionnaire was comprised of 2 parts: questions about personal information of the interviewee including sex, age, ethnicity, level of education, economic status, and occupation; and questions about having a loved one in need of organ transplantation and the interviewee's opinions about cadaveric organ donation (Table 1). Validity and reliability of the questions were assessed by a group of psychologists and sociologists. The economic status of the individuals was categorized based on their monthly income (low, < US\$ 400; middle, US\$ 400 to US\$ 600; high, > US\$ 600).

Table 1. Questions about Organ Donation

1. Do you have a loved one in need for organ transplant?
2. Do you accept your organs to be donated in case of brain death?
3. If brain death occurs in a member of your family or relatives, will you allow organ donation?
4. In case of your brain death, do you prefer the compensation to be demanded by your family?
5. If brain death occurs in a member of your family or relatives, will you demand compensation for organ donation?
6. Which do you think is needed for organ donation? A written testimony of the dead person? Written consent of the dead person's family? None of them?
7. Are you in favor of organ donation from definitely dead bodies?

The collected data were analyzed using Student *t* test and chi-square test. Continuous variables were demonstrated as means \pm standard deviations and values for *P* less than .05 were considered significant.

RESULTS

A total of 1000 people were interviewed (Table 2). The mean age of the interviewees was 27.9 years (men, 28.2 years; women, 27 years; range, 15 to 70 years).

The answers of the participants to the questions regarding organ donation are summarized in Table 3. Three-fourths (75%) of the interviewees were pro organ donation by themselves in case of brain death, 22% rejected to donate their own organs, and 3% had no specific idea. Age was not significantly different between these 3 groups (mean ages, 30.0 ± 8.2 years, 29.2 ± 11.8 years, and 28.4 ± 10.7 years,

respectively; *P* = .23). Of women, 84.8%, 12%, and 3.2% were in favor of, against, and neutral for the matter. In men, these rates were 79.7%, 17.3%, and 3%, respectively. Although the rate of acceptance was higher in women, the difference was not significant (*P* = .63). Regarding the ethnicity, 91.2% of the Lor people, 85.1% of the Persian, and 75.2% of the Arabs were against their own organ donation. The difference between the Lor and Arab people was significant (*P* = .03). A greater number of interviewees with a high school or higher educational level were pro their organ donation (*P* = .43). In the low-income families, 61.9% and 32.1% were in favor of and against the process and 7% were neutral. These rates were 84.1%, 13.3%, and 2.6% for the middle-income and 77.7%, 19.3%, and 3% for the high-income families (*P* = .01). In the low-income families, men were less willing for organ donation compared to women (*P* = .04). No significant difference was found between the occupational groups (*P* > .05).

Twelve percent of the participants had a loved one in need of organ transplantation. Of these, 108 (90%) and 12 (10%) were in favor of and against their organ donation, respectively. These rates were 73% and 23.6% among the people who had no one in need of transplantation (*P* = .003).

Regarding the issue of demanding compensation for organ donation, 27% of the participants were in favor of the idea and 73% disagreed. The participants against demanding compensation included 66.9% of the men, 66.5% of the women, 67.7% of the Arabs, 66.6% of the Persians, and 64.1% of the Lors. The sex and ethnicity of the interviewees had no influence on their opinions about compensation. The disagreement rates were 58.2%, 79.4%, and

Table 2. Demographic Data of Interviewed People in Ahwaz

Characteristic	Number
Sex	
Male	683
Female	317
Ethnicity	
Arab	468
Lor	148
Persian	384
Level of education	
School dropout	266
High school or associate bachelor's degree	554
Bachelor's or higher degree	170
Occupation	
Student	100
Employee	330
Businessman	410
Unemployed or housewife	160

Table 3. Answers of 1000 Interviewees to Questions About Organ Donation*

Questions	Yes	No [†]	No Idea [†]
Donate your organs in case of brain death?	75	22	3
Donate your family member's organs in case of brain death?	72	20	8
Demand compensation for your organ donation?	27	73	0
Demand compensation for family member's organ donation?	25.3	70	4.7
Prerequisite for organ donation:			
A written testimony?	32
Written consent of the family?	50
None of them?	18
Are you in favor of organ donation from definitely dead bodies?	73	27	0

*Values are percents.

[†]Ellipses indicate not applicable.

Table 4. Participants' Opinions about Prerequisites for Organ Donation*

Participants	Prerequisite for Organ Donation		
	Family's Consent	Written Testimony	Nothing
All	50	32	18
Ethnicity			
Arab	50	35.6	14.4
Lor	54.4	29.3	16.3
Persian	54.4	29.3	16.3
Level of education			
School dropout	43.9	39.4	16.5
High school or associate bachelor's degree	53.9	30	16.1
Bachelor's or higher degree	26.4	38.2	35.2

*Values are percents.

80.6% among the participants with school dropout, high school or associate bachelor's degree, and bachelor's or higher degrees, respectively ($P = .04$). Of the interviewees in families with low, middle, and high incomes, 59.4%, 81%, and 73% were against demanding compensation ($P = .04$).

No difference was found between the ethnicities with regard to the prerequisites of organ donation (Table 4), but a higher proportion of the participants with higher educational levels believed in organ donation without any consent or testimony ($P = .02$).

Finally, 73% and 27% of the participants were in favor of and against organ donation from the patients with definite death, which is similar to the results for brain death.

DISCUSSION

Organ donation from living unrelated donors is failing to fulfill the demand in our country.⁽¹⁾ On the other hand, there exist a number of disadvantages for the use of living unrelated donors: the increasing financial interests among living donors, early complications of donor nephrectomy, unclear long-term impact of living with one kidney in donors, and impossibility of vital organs transplantation such as heart, liver, pancreas, and lung from living donors. As a result, organ transplantation from the patients with brain death has been encouraged by the health care authorities in Iran. By passing the laws in this regard, now there is no official prohibition in most countries.⁽¹²⁾ However, lack of organ donation regulations is one of the most important restrictions in some developing countries such as Pakistan, Bangladesh, and Malaysia.⁽¹¹⁾

Another issue which must be considered is the public attitude toward the sources of organ donation. Our study showed that 75% and 72% of the people were in favor of organ donation by themselves and by their family members, respectively. These hopeful results have been achieved in spite of no appropriate educational program. In the study by Barcellos on 3159 participants, the rate of donation acceptance after the death was 52%.⁽¹⁵⁾ In a study by Donmez and colleagues, these rates were reported to be 52.5% and 37.6% for organ donation by the interviewees and by their family members, respectively.⁽¹⁶⁾ Bilgel and coworkers reported that 50.5% of the subjects selected from a Turkish community agreed organ donation after the death.⁽¹⁷⁾ The higher results of ours indicate that we can have a larger source of potential donors.

In a study by Cynthia and Gurch on the African and the Caribbean black people, it was shown that although these populations have an enormous number of patients in need of organ donation, their information about ESRD and organ donation is very little.⁽¹⁸⁾ A significant correlation existed between the level of education, economic situation, age, and sex of the participants with their tendency for organ donation.^(17,19) However, among selected groups of people with the same conditions contradictory findings have been reported. Surveys among the Japanese, for instance, showed that 50% of the people were pro donation after their death in 1995 and this rate has increased by 15.2% in 2001.^(20,21) However, Terada, in a study performed on the nurses, showed that less than half of them agreed with organ donation after brain or cardiac death and more than half of them could not decide about it at the time

of study.⁽²²⁾ This means that the education level and information cannot always improve the peoples' attitudes toward organ donation.

Among our subjects, those with higher levels of education and better knowledge were more willing for organ donation. Also, they believed in organ donation without claiming compensation and providing consent from the deceased patient's family. People with a loved one in their family or relatives had more tendency for organ donation. This highlights the quality of educational programs; the more we can depict how the patients and their families suffer from the disease, the better feedback we can receive. Finally, the diverse acceptance rates among different nations and ethnicities should be considered in plans for organ procurement. Our study shows that the Arabs have the least tendency for organ donation after the death which can be due to their traditional beliefs. But, educational and economic situation of this group may have influenced the results. Differences between the ethnicities and their beliefs need to be evaluated in studies with special attention to the other social factors.

CONCLUSION

According to our study, many people are pro organ donation after their death. In order to have such a great donor population, it is necessary to have a regular program for these people to give them the opportunity to register and receive a donation card. For the people who do not have the tendency for the matter, we had better try to increase their knowledge by educational programs and provide sufficient information. Increasing the level of general public education in a long-term plan is quite useful. In order to get familiar with the problems of the patients in need of organ transplantation and their families, production of some educational programs are advocated. Also, it is recommended to financially support families who donate organs. Regarding the overall positive attitude of the people toward organ donation in our country, we can easily have a place for cadaveric transplantation.

CONFLICT OF INTERESTS

None declared.

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