



Survey on the Willingness of Luzhou Citizens to Donate Human Remains and Influencing Factors

BY

Yangyang Ren^{1*}, Qianru Huang², Qin Luo³, Wenjing Li⁴

^{1,2*}School of Economics and Management, Southwest Petroleum University, Chengdu, 610500

^{3,4}School of Humanities and Management, Southwest Medical University, Luzhou, 646000



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Abstract

Based on the existing situation of body donation in Luzhou City, this paper analyzes the three dimensions of awareness, willingness to donate, and influencing factors of the citizens of Luzhou, aiming at exploring the current level of understanding and acceptance of the citizens of Luzhou for body donation, and proposing some corresponding guiding opinions, so as to make reference to promote the further development of the field of body donation in Luzhou City.

Keywords: body donation; willingness to donate; influencing factors

1. Introduction

Cadaveric donation refers to the act of donating the remains of a natural person who has indicated during his/her lifetime that he/she will voluntarily donate his/her remains after death, or a natural person who has not indicated during his/her lifetime whether or not he/she wishes to donate his/her remains after death, and his/her family members will donate his/her remains to the cause of medicine and science^[1]. Body donation started in China in the 1970s, and in the 1970s, there were cases of volunteers donating their bodies for anatomy teaching and scientific research^[2]. Human remains affect anatomy teaching, clinician skills training, basic research on clinical disease science, and organ transplantation^[3]. However, up to now, there are only 45,000 cases of human remains donation nationwide. In China, the percentage of registered human remains donations is very small, accounting for only about 0.01% of the total population, and the actual number of donations only accounts for 4%-20% of the number of registrations^[4], while the rate of human remains donations in foreign countries is as high as 30%-80%^[5]. Most of the domestic research findings are relatively consistent, the overall proportion of the public explicitly expressed willingness to donate remains at the level of more than 30%, more than 40%, which is similar to the proportion of foreign scholars, such as Preetha Parthasarathy(2018) on the United States^[6] and Nerissa Naidoo(2021) on the Middle East region of the survey on the willingness to donate human remains is relatively close to the proportion^[7]. Although the willingness

to donate remains in China is not much different from that of foreign countries, the actual rate of remains donation is much lower than that of foreign countries. The Luzhou Red Cross is in charge of body donation in Luzhou, but it is the local medical university's body donation office that is responsible for receiving bodies. It is reported that since the establishment of the local medical university's body donation office in 2013, a total of 35 cases have been received by December 2022, which is seriously insufficient for the local medical university's "big body teachers" who are needed for medical education and research. Therefore, this paper investigates the awareness level, willingness to donate, and influencing factors of Luzhou citizens to understand the behavior of Luzhou citizens' body donation. By analyzing and exploring a series of influencing factors behind it, we can make better-guiding suggestions for the future education of body donation.

2. Research design

2.1 Content and methodology of the survey

The questionnaire survey and the interview method were mainly adopted, and the survey content mainly included the basic situation of the respondents, the degree of awareness of Luzhou citizens on body donation, the willingness to donate, as well as the influencing factors, and so on.

2.2 Target and scope of the survey

The survey respondents were divided into questionnaire respondents and interview respondents: questionnaire respondents were adults over 18 years of age in Luzhou City;



interview respondents were divided into two types: adults over 18 years of age in Luzhou City and faculty members of the Anatomy Department of the local medical university. The survey was conducted in the main urban area of Luzhou City, Sichuan Province, mainly in Longmatan District and Jiangyang District.

2.3 Survey implementation

2.3.1 Sample pre-survey

Prior to the formal survey, a two-day pre-survey was conducted in the vicinity of the local medical university campus, accumulating 100 questionnaires. The pre-survey was used to pave the way for the formal survey by making minor revisions to the questionnaire questions, as well as selecting appropriate survey methods.

2.3.2 Formal investigations

In the actual survey, this survey team distributed a total of 700 questionnaires, including 500 paper questionnaires, 434 were recovered, 200 electronic questionnaires, 200 were recovered. In the 634 questionnaires recovered, 21 questionnaires do not meet the specification of questionnaire filling, 21 questionnaires do not meet the age group, so in order to ensure the authenticity and reliability of the questionnaire, we will take these 47 questionnaires as invalid questionnaires, so the actual valid questionnaires are 587, and calculations can be made to obtain this questionnaire recovery rate of 83.86%.

2.4 Statistical treatment

The data of valid questionnaires were mainly analyzed using SPSS 20.0 software. Count data were expressed as frequencies and percentages, and comparisons between groups were made using the X² test, with P<0.05 as the statistically significant difference.

3. Findings

3.1 Level of awareness of body donation

Luzhou citizens for the overall understanding of the degree of body donation was concentrated distribution, that is, in a more understanding and general understanding of the situation accounted for the majority, more understanding of 246 people, general understanding of 218 people, accounting for 41.91%, 37.14%, while the number of people who are very aware of the number of people who know about the donation of human remains and less aware of the number of people who do not know much about the donation of human remains were 18 people, 105 people, accounting for 3.07% respectively, 17.89%. After the chi-square test, it can be seen that age as well as literacy level has a statistically significant effect on the degree of knowledge of body donation (P<0.05), which can be concluded that there is a significant difference between age and literacy level on the knowledge of body donation among Luzhou citizens, indicating that there is a relationship between age, literacy level and the knowledge of body donation, as shown in Table 1.

Table 1 Differential analysis of age and education level on perception of body donation (n=587)

Level of knowledge about body donation	X ²	P
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	realise	relative knowledge	general knowledge	Not really.		
(a) person's age						
18-30 years	11	93	53	12		
31-45 years	4	133	103	25	141.116	<0.01
46-60 years	1	15	50	46		
60 years and over	2	5	12	22		
educational attainment						
Junior high school and below	1	18	39	62	181.962	<0.01
Secondary and high school	4	101	105	33		
College and Bachelor's Degree	6	112	67	8		
Graduate student and above	7	15	7	2		

3.2 Willingness to donate remains

On whether there has been a will to donate human remains, of which only 176 people said that there has been a will to donate human remains, accounting for 29.98%, 233 people said that there has not been a will to donate human remains, accounting for 39.69%, and there are 178 people said that they are not quite sure whether there has been a will to donate human remains, accounting for 30.32%. Data statistics most of the citizens have considered the issue of body donation, but the willingness to donate only 30% of the citizens, more than 70% of the citizens do not have a clear willingness to donate,



indicating that Luzhou City, the citizens of the lower willingness to donate. After the chi-square test, it can be seen that age as well as literacy level has a statistically significant effect on the willingness to donate remains ($P < 0.05$), which can be concluded that there is a significant difference between age and literacy level on the willingness of Luzhou citizens to donate remains, indicating that there is a relationship between age, literacy level and the situation of the willingness to donate remains, as shown in Table 2.

Table 2 Differential analysis of age and education level on willingness to donate remains (n=587)

	Have you ever wanted to donate your body?			X ²	P
	there are	hasn't are	Not really sure.		
(a person's) age					
18-30 years	69	51	49		
31-45 years	85	84	96		
46-60 years	13	70	29	61.349	<0.01
60 years and over	9	28	4		
educational attainment					
Junior high school and below	14	86	20		
Secondary and high	56	99	88	101.160	<0.01

	school		
College and Bachelor's Degree	89	44	60
Graduate students and above	17	4	10

3.3 Factors influencing willingness to donate human remains

According to Table 3, among the reasons why people do not consider body donation, traditional concepts 4, 5 points total 524 people, accounting for 89.27%, with an average score of 4.56; family factors 4, 5 points total 521 people, accounting for 88.76%, with an average score of 4.42; the body is not respected, not properly handled 4, 5 points total 528 people, accounting for 89.95%, with an average score of 4.5; the body Inadequate donation-related systems and regulations 4, 5 out of a total of 521 people, accounting for 88.76%, with an average score of 4.5; cumbersome procedures 3, 4, 5 out of a total of 567 people, accounting for 96.6%, with an average score of 4.23; insufficient trust in the receiving station 3, 4, 5 out of a total of 569 people, accounting for 96.94%; the views of others 3, 4, 5 out of a total of 553 people, accounting for 94.21%, with an average score of 4.08; religious beliefs 4, 4, 5 out of a total of 553 people, with an average score of 94.21 4.08; 333 people, or 56.73%, scored 4 or 5 on religious beliefs, with an average score of 3.72. According to the distribution of the mean score and the score, it can be seen that most Luzhou citizens are unwilling to donate their remains because of traditional concepts, family factors, the remains are not respected, not handled properly, the system and regulations related to the donation of remains are not sound, the procedures are cumbersome, not enough trust in the receiving station, and the views of others. More than half of the people believe that religious beliefs make people reluctant to donate their bodies, which shows that religious beliefs are also an important factor influencing people's willingness to donate their bodies.

Table 3 Statistics on the scale of factors that people do not consider body donation

Title \Option	1	2	3	4	5	average score
traditional concept	4 (0.68%)	8 (1.36%)	51 (8.69%)	117 (19.93%)	407 (69.34%)	4.56
Family factors	4 (0.68%)	11 (1.87%)	51 (8.69%)	191 (32.54%)	330 (56.22%)	4.42
Lack of respect for human remains and mishandling	2 (0.34%)	12 (2.04%)	45 (7.67%)	161 (27.43%)	367 (62.52%)	4.5
Inadequate body donation regulations, etc.	6 (1.02%)	11 (1.87%)	49 (8.35%)	141 (24.02%)	380 (64.74%)	4.5
cumbersome procedures	5	15	103 (17.55%)	182 (31.01%)	282	4.23

	(0.85%)	(2.56%)			(48.04%)	
Lack of trust in receiving stations	6 (1.02%)	12 (2.04%)	107 (18.23%)	210 (35.78%)	252 (42.93%)	4.18
other people's views	9 (1.53%)	25 (4.26%)	100 (17.04%)	227 (38.67%)	226 (38.5%)	4.08
religious belief	25 (4.26%)	113 (19.25%)	116 (19.76%)	82 (13.97%)	251 (42.76%)	3.72

Average score for this matrix question: 4.27

Note: The higher the score, the more important the factor is.

4. Discussions

4.1 Luzhou citizens have better knowledge about body donation

Among the 587 sample questionnaires actually recovered, the overall level of knowledge about body donation was 41.91%, totaling 246 people, 37.14%, totaling 218 people, and 17.89%, totaling 105 people, for the number of people who knew relatively well, while the number of people who knew less well was 17.89%, totaling 105 people. Meanwhile, according to the analysis of the difference between the demographic characteristics and the degree of knowledge of body donation, it can be concluded that age and literacy have significant differences, i.e., there is a certain influence on the knowledge of body donation.

4.2 Low level of willingness of Luzhou citizens to donate human remains

Of the 587 sample questionnaires actually recovered, on the question of whether there has been a will to donate human remains, 39.69% of the citizens did not have a will to donate human remains, a total of 233 people, while the citizens who were not quite sure whether there has been a will to donate human remains accounted for 30.32% of the total of 178 people, of which the number of people who explicitly stated that there has been a will to donate human remains accounted for nearly 30% of the population, and at the same time, according to the analysis of differences in demographic characteristics and willingness to donate human remains At the same time, according to the difference analysis of demographic characteristics and willingness to donate human remains, it can be obtained that age and cultural level have significant difference on the willingness to donate human remains, i.e., there is a certain influence. At the same time, from the interviews with Luzhou citizens, it can also be seen that although the respondents are supportive and favorable to the behavior of body donation when it comes to the individual's willingness to donate remains, everyone may choose to retreat, and the actual degree of willingness to donate is low.

4.3 The most central influencing factor for Luzhou citizens not to consider body donation is traditional attitudes

According to the statistics of the scale of factors that citizens do not consider body donation, the traditional concept of choosing 4, 5 points totaled 524 people, accounting for

89.27%, with an average score of 4.56 points, which is higher than the other factors to become the most important influencing factors. At the same time, according to the table, it can be seen that the fear that the remains will not be respected and handled improperly and the incomplete system and regulations related to the donation of human remains, the average score is flat, and it has become the secondary influencing factor that Luzhou citizens do not consider the donation of human remains. Furthermore, from the interviews with Luzhou citizens and teachers of the Anatomy Teaching and Research Laboratory, it can be seen that traditional ethics and morals have a great influence on people's willingness to donate human remains, largely hindering people's actual power of action and that few people are willing to look at the practical significance of this matter from a more scientific and modernized point of view.

5. Suggestions

5.1 Government

(1) Government departments take the lead to strengthen the publicity of scientific knowledge of body donation to the public so that more people know the basic knowledge of body donation, create positive social opinion, and encourage citizens to actively participate in the cause of body donation; (2) improve the laws and regulations related to body donation and the process; (3) award certificates of rewards for body donors, and give spiritual awards; (4) give certain economic compensation to the relatives of the donors. compensation. Most of the regions in China are only giving honorary certificates to the donors and their families after the completion of the body donation work, and there is no policy of economic support, if the donor's relatives are given a certain amount of economic compensation, it can to a certain extent improve the enthusiasm of the donor's body donation.

5.2 Social aspects

(1) Strengthen the popularization of science education and publicity on body donation; (2) use developed social media such as Jittery, Weibo, WeChat, and other self-media to promote and improve the efficiency of dissemination; (3) can be set up in the grassroots units of the body donation consulting office, convenient for residents to learn the relevant knowledge; (4) the establishment of a special cemetery of the body donor. Establishing memorial gardens for body donors and organizing commemorative activities for all sectors of society at specific times, such as student groups,

institutions, and hospitals, in order to publicize the role of body donation and at the same time to make body donors and their families feel the humanistic care of society, so as to cultivate a social culture of respect for body donation in the whole of society.

5.3 Schools

(1) Secondary schools and universities can publicize knowledge about body donation through lectures and popular science activities to enhance students' understanding of body donation; (2) medical schools should strengthen the comprehensive quality education for students, and put medical ethics and medical morality throughout medical education to cultivate students' humanistic care spirit, so as to let students respect the body donors from the bottom of their hearts; (3) medical schools should give full protection to the body donors in anatomy laboratories, and strictly prohibit students from taking pictures and photographs to fully protect the human dignity of the donors. Donors' full protection, students are strictly prohibited from taking pictures and photography, fully protect the human dignity of donors, and can carry out collective memorial activities or bowing before the medical laboratory class to show respect for the body donors.

5.4 Hospitals

(1) Relatives of human remains donors can enjoy the convenience of medical services, such as the priority of some specific medical services, or even free of charge, especially in the medical aspects of organ transplantation, to improve the willingness of human remains donors to donate; (2) the opacity of the work of human remains donation will make the public worry that their own remains will not be treated properly, and therefore the willingness to donate human remains will be even lower, and to improve the transparency of the work of human remains donation and the use of human remains, can make the public deeply understand the role of human remains donation, and can somehow dispel the worries of donors and their families. Enhancing the transparency of

the donation process and the use of human remains will enable the public to deeply understand the role of human remains donation, and to a certain extent, it can also dispel the concerns of donors and their families.

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