

Willingness and Attitude Towards Organ Donation of Nurses in Taiwan

Min-Chuan Huang, I-Ping Chen, Shu-Ying Chung

Abstract—Taking the medical staff in an emergency ward of a medical center in Central Taiwan as the research object, the questionnaire data were collected by anonymous and voluntary reporting methods with structured questionnaires to explore organ donation's actual situation, willingness, and attitude. Only 80 valid questionnaires were gathered. Of the 8 questions, the correct mean rate was 5.9 and the correct rate was 73.13%. According to the statistics of organ donation survey, only 8.7% have signed the consent for organ donation, 21.3% are willing but have not yet signed the consent for organ donation, 62.5% have not yet decided, and 7.5% are unwilling. The average total score (standard deviation) of attitude towards organ donation was 36.2. There is no significant difference between the demographic variables and the awareness and willingness of organ donation, but there is a significant correlation between marital status and the attitude toward organ donation.

Keywords—Clinical psychology, organ donation, factors affecting psychological disorders, commitment.

I. INTRODUCTION

DUE to humanitarianism, personal moral beliefs, and deep psychological fear of surgery, it is impossible to fully reveal the cognition, willingness and attitude of organ donation. According to the statistics of the Taiwan Organ Registry and Sharing Center (TORSC) [1], [2] database for organ transplantation and donation, the number of people who have signed an organ donation consent card has reached more than 300,000 in 2019 since the 13,000 people established by the laws and regulations of 1987. Obviously, it has increased a lot, but Taiwan nurses are still needed to help the public to continue to promote the awareness, willingness, attitude, and commitment of the public to promote organ donation education [3]-[7], because the percentage of organ donation consent cards is still much lower than Europe, the United States, and the United Kingdom [8]-[12].

Currently, Taiwan has a donation rate of about 6.6 parts per million, which is much lower than 28 parts per million in European countries [18]. Consequently, the lack of human organs and the promotion of the organ donation consent card remain the main issue when it comes to organ transplantation. The subjects of the questionnaire were nurses from the Emergency, Intensive Care Unit (ICU) at a Taichung medical center. Nurses are professionally certified, with rigorous training in nursing, have experience in nursing, understand the

medical importance of organ donation. Nurses are positive and correct when it comes to organ donation. The purpose of this article is to understand nurses' knowledge of organ donation, nurses' attitude toward organ donation, nurses' willingness to donate organs. The purpose of the research is to understand the correlation of nurses' perceptions of organ donation, their willingness to donate, and their attitudes and to verify whether their personal background variables have any difference in organ donation.

II. METHOD

According to the research background, purpose and relevant literature verification of international journals, after the integration and collation, the research framework is developed. The individual variables in this study are the baseline data on a person's social and economic context, including age, marriage and religious beliefs.

The dependent variables are the cognition of organ donation, organ donation attitude and organ donation willingness; discussing age, marriage, religious beliefs, and organ donation. The research structure is shown in Fig. 1.

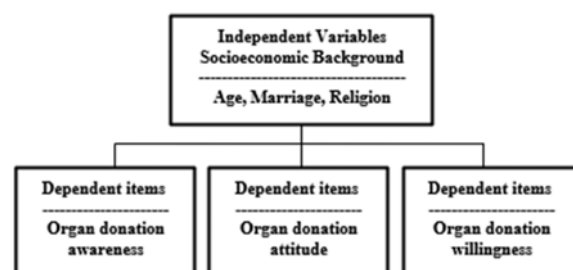


Fig. 1 Research structure

A. Research Hypothesis

- 1) Is the age of the research object related to the perception of organ donation?
- 2) Is the age of the research object significantly related to the willingness to donate organs?
- 3) Is the age of the research object significantly related to the attitude of organ donation?
- 4) Is there a difference between the marital status of the research subjects and the perception of organ donation?

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- 5) Is there a difference between the marital status of the subjects and the willingness to donate organs?
- 6) Is the marital status of the research object related to the attitude of organ donation?
- 7) Are there differences in the religious beliefs and organ donation on the research subjects?
- 8) Is there a difference between the religious belief of the research object and the willingness to donate organs?
- 9) Are there differences in religious beliefs and organ donation attitudes?
- 10) Does the research subject's perception of organ donation have a significant correlation with organ donation willingness?
- 11) Does the research object's attitude towards organ donation have a significant correlation with organ donation willingness?
- 12) Does the subject's perception of organ donation have a significant correlation with the attitude of organ donation?

B. Establishment of Reliability and Validity

When the questionnaire design is completed, it is necessary to verify the reliability and validity of the questionnaire content, and employ experts and scholars to evaluate the surface validity and content validity.

The nurses discussed the contents of the questionnaire in detail, provided modification suggestions, and predicted the questionnaire after finalization. The results of the predictions correlate with cognitive problems. Challenge Analysis <P> and Discrimination Analysis <D> were completed before and after the modification. The reliability factor for the overall test was calculated using the Curry formulas. The coefficient γ was 0.5 prior to the amendment, and the γ was 0.6 after the amendment; attitudinal questions were also assessed for discriminatory power <D>. The alpha coefficient before modification is 0.55, and the alpha after modification is 0.68. The reliability and validity coefficient do not exceed 0.7, which is increased by 0.1 after deletion. After the second revision, the formal test is started.

C. Literature Discussion

With the advancement of transplantation medicine, the quality and quantity of organ transplant operations in Taiwan have improved significantly, but there are still five or six thousand people waiting for organ transplantation every year, and there are about a thousand brain death patients who meet the conditions of organ donation. People around. But the actual number of donors does not exceed 100 people. Every year, nearly 1,000 organs of brain-dead patients who could have been donated were cremated or buried, and the opportunity was missed [2], [7]. Some patients died because they could not replace their organs in time. It can be seen that the concept of organ donation in Taiwan still requires active promotion.

In the study of cross-validation of the attitude and commitment of nurses to organ donation in Hong Kong, 55% of nurses have a commitment to organ donation [13]. To explore the knowledge, attitude and feelings of nurses on organ and tissue donation after circulatory death in the pediatric

intensive care environment in the UK, we found that the nurses had a positive attitude towards donation, strong professional ethics and family centered values [14]. The attitude of nurses to organ donation in Serbia mentioned that nurses are the key persons in the process of organ donation, and the families of patients and potential donors are the media education and publicity. There is a need to raise nurses' awareness of organ donation [15]. According to a literature study, the questionnaire of 147 surgical nurses in Turkey also indicated that it is still necessary to continue to strengthen the education of organ transplantation and donation [16]. If Taiwan and China can establish a reliable ICT system (electronic medical records), they can establish a platform for organ donation and circulation on both sides of the Strait, and expand the openness of international medical treatment to overseas transplantation [17].

III. RESULTS

It is a cross-sectional study of medical personnel in Taichung a medical and surgical Centre and ICU Wards in Taiwan. Stratified and group sampling was used in hospitals. After contacting the unit head of nursing, qualified nurses in the unit who are willing to accept the survey will complete the survey anonymity. In total, 85 organ donation questionnaires were sent out, 80 were recovered and the recovery rate reached 94% [17].

The questionnaire for this study was developed based on the Organ Donation Manual of Chang Gung Memorial Hospital in Taiwan. Respondents' willingness and attitude towards organ donation were recorded. The questionnaire response design is divided into 8 questions, one point is awarded for correct answers and 0 points for incorrect answers. The higher the score, the better the understanding of organ donation. The part about wanting to make an organ donation includes wanting to make an individual organ donation, wanting to sign a family organ donation, and being a voluntary organ donor. Questions and answers on the personal organ donation willingness and points calculation methods are; 4 points for those who have received a donation card, 3 points for those who are willing to apply for the card, 2 points for those who have not yet decided, and 1 point for unwilling. The higher the cumulative score, the stronger the willingness to donate. The Organ Donation Attitude Scale focuses on the nurses' views and wishes on issues related to organ donation attitudes. The scale distinguishes 10 questions. The positive questions are questions 4 to 7, and the negative questions are questions 1 to 3 and 8 to 10. The scoring method is to strongly agree with 5 points, agree with 4 points, no opinion 3 points, disagree with 2 points, strongly disagree with 1 point. The higher the cumulative score, the more positive the willingness and attitude towards organ donation.

A. Discussion: Cognition, Willingness and Attitude of Nurses towards Organ Donors

The age of the research subjects has nothing to do with the perception of organ donation. The average age of the nurses tested was 29.125 years old and had a nurse professional qualification certificate. Their training and education have

acquired the correct basic knowledge of organ donation, so the influence of age differences on organ donation knowledge is irrelevant. (See Table I).

TABLE I
ANALYSIS OF THE CORRELATION BETWEEN AGE AND COGNITIVE
WILLINGNESS AND ATTITUDE

Variable	Cognition $r=-0.011$		Will $r=0.053$		Attitude $r=0.214$	
Age	M	SD	M	SD	M	SD
	5.85	1.19	7.51	1.92	36.2	4.61

B. Age and Organ Donation Intention

There is no obvious difference between age and willingness to donate organs. The average age of the questionnaire is about 29 years old. It belongs to the young ethnic group. Organ donation matters have not been considered, and because young people are in good health, they don't even consider organ donation matters. (See Table II).

TABLE II
DIFFERENCE ANALYSIS RESULTS OF MARRIAGE ON COGNITIVE WILL AND
ATTITUDE

Variable	Cognition $\alpha=0.05$		Will $\alpha=0.05$		Attitude $\alpha=0.05$	
Marriage status	M	SD	M	SD	M	SD
Unmarried (53)	5.8679	1.0748	7.5094	1.9377	35.2264	4.6519
Married (27)	5.8148	1.4152	7.5185	.9089	38.1111	3.9549
	$t=0.171$		$t=-0.020$		$t=-2.753^{**}$	

C. Religious Belief and Attitude towards Organ Donation

There is no obvious difference between the religious belief and the attitude of organ donation, because the amount of "non-belief" in the questionnaire survey is high, so the difference is affected. (See Table III).

TABLE III
ANALYSIS OF DIFFERENCES IN RELIGIOUS BELIEFS IN COGNITIVE
WILLINGNESS AND ATTITUDE

Variable	recognition $\alpha=0.05$		willing $\alpha=0.05$		Degree $\alpha=0.05$	
Religion	M	SD	M	SD	M	SD
1 (11)	5.7279	1.1909	7.0000	1.8439	36.6364	4.1386
2 (30)	5.9333	1.2015	7.4333	2.0117	35.6333	.5900
3 (39)	5.8205	1.2112	7.7179	1.8771	36.5128	.6728
	$F=0.140$		$F=0.637$		$F=0.359$	

D. Donation Attitude and Willingness

The attitude of organ donation is significantly related to the willingness of organ donation. The reason is that the attitude of the professional nursing staff is positive, and the knowledge of organ donation is also relatively rich, so the willingness will be relatively increased. (See Table IV).

TABLE IV
CORRELATION ANALYSIS RESULTS OF WILL, COGNITION AND ATTITUDE

Variable	Cognitive	Attitude
Wish	$r=-0.127$	$r=0.336^{**}$

E. Donation Cognition and Attitude

The results showed that there was no significant correlation between nurses' cognition and attitude towards organ donation. Perhaps because the questionnaire group is professional nursing staff, their cognition and attitude are positive, so the results do

not show significant differences. (See Table V).

TABLE V
CORRELATION ANALYSIS RESULTS OF WILL, COGNITION AND ATTITUDE

Variable	attitude
Recognition	$r=-0.149$

IV. CONCLUSION AND DISCUSSION

The purpose of this study was to investigate the cognition, attitude and willingness of clinical nurses on organ donation in Taichung A medical center. There are 8 questions about the cognition of organ donation, and the statistical result is an average of 5.9 points. The study found that the nurses' cognition answer rate for organ donation was 73.13%. Regarding the attitude and willingness of organ donation, the survey found that nurses' attitude towards organ donation is positive and the average score of support is 3.6 points (out of 5 points); "willing and have signed an organ donation consent card" accounted for only 8.7%, compared with Foreign reports (19-35%) are low; "willing but don't have signer donation consent card" accounted for 21.%, "thought, but not decided" accounted for 62.5%, "unwilling" accounted for 7.5% lower than the US-Canada 8- 15%. Compared with 51~94% of American nursing staff who agree or have willing organ donors, 28~62% of them actually signed an organ donation card.

Nurses have correct and positive attitudes towards the basic concept of organ donation. The level seemed hesitant and stagnated when it was put into action.

The results of the study found that the young nurses among the study subjects had a willingness to donate organs and did not currently apply for an organ donation card. It is to respect the opinions of other family members, so the decision has not been made immediately.

The subjects of this survey were the nursing staff in the acute wards of internal medicine, surgery, and ICU. Many patients or family members who are willing to accept organ transplantation or donation have not been consulted or the opportunity to specify the details of the donation. The nursing staff have the opportunity to find potential organ donors in the clinic, and the results of the research should provide a reference for organ donation promotion and manpower management in the medical hospital. On the other hand, the results of the study also reflect some young people's ideas about organ donation intentions, attitudes and knowledge, but because they are not the decision makers in the family, the signing of the family member's willingness to donate organs answer is undecided and will not be too high.

Most of the researched ethnic groups are young people who are not the main decision makers in the family. If the survey subjects are the head of the household and the elders of the household, discussing the willingness of the individual and signing family members to donate organs may provide more directions for organ donation. The organ harvesting behavior is that organ donors have donation intentions or have signed an organ donation consent card during their lifetime, and family members still need to sign the consent for organ donation before

organ harvesting. Therefore, the family's decision-making power plays a decisive role. Taiwan's folk culture attaches great importance to the preservation of corpses after death, which may affect Chinese people's views on donation. In the future, it will be a very important issue to break the cultural myth about the preservation of bodies after death, to strengthen the actual actions of organ donation, and to increase the rate of organ donation. Sampling in this study is limited to a single medical center and the number of samples is small, and the relationship between disguise is not easy to show. In the future, further research on expanding the number of samples, adding nursing staff in different units, or other non-nursing medical personnel will be more meaningful.

ACKNOWLEDGMENT

We would like to thank the assisting units of the School of Nursing, Central Taiwan University of Science and Technology, the nurses of the Taichung Blood Donation Center of the Taiwan Blood Foundation, and all the teachers in the Network Engineering Department of the School of Computer Science and Technology of Guangdong University of Petrochemical Technology (12440000727040230G) (Project Number: 2019rc076 (702-519186, 702-72100003102)).

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