



IJCRR
Section: Healthcare
Sci. Journal Impact
Factor: 6.1 (2018)
ICV: 90.90 (2018)



Copyright@IJCRR

The Subjectivity on Organ Donation: Q-Methodology

Sunyoung Jang*

Associate Professor, Department of Nursing, Hanseo University, South Korea

ABSTRACT

Introduction: Owing to the development of new diagnoses and treatments with the advancement of modern medical science, many diseases that used to be regarded as impossible to be treated in the past are cured now.

Aim and Objective: The objectives of this study are to understand the subjectivity of organ donation perceived by nursing students, to describe the characteristics of each type, and also to understand the categorization of organ donation by applying the Q-methodology. Total of 20 students of the nursing department in a college was asked to classify a total of 46 sentences of statements about organ donation. The collected data was analyzed by using the QUANL PC Program. In the results of this study, the nursing students' perception of organ donation was divided into two factors. The types of subjectivity on organ donation included the 'type of seeking for the vitalization measures for organ donation' and the 'type of considering the characteristics of organ donors'.

Conclusion: This study provided the basic data for understanding and educating the perception of organ donation of clinical nurses.

Key Words: Organ Donation, Nursing Student, Subjectivity, Q-Methodology, Nurses

INTRODUCTION

Owing to the development of new diagnoses and treatments with the advancement of modern medical science, many diseases that used to be regarded as impossible to be treated in the past are cured now¹, and especially, the organ donation that has started being developed since the 1950s, is established as a treatment for patients with end-stage organ failure in the advanced countries, and it is also recognized as a treatment that could increase the quality of life². To solve the shortage of organ donation, the foreign countries are developing and effectively operating diverse organ donation vitalization programs such as the latent brain dead report system, aggressive organ procurement program, support for families, and active national promotion. It is reported that the number of brain death organ donation is gradually increasing through these programs³.

As it is important to put efforts into understanding the latent brain death early and recommending the organ donation to be led to the actual donation, the medical personnel involved

in treatment by directly contacting the brain-dead patients plays a very important role^{3,4}. The medical personnel contacts the latent brain-dead patients first and also form continuous relationships with their families. Thus, when they have a positive attitude toward the necessities, process, and roles of brain death organ donation, the process of organ donation could be promoted⁵. In this aspect, helping the students majoring in medical science and nursing science as medical personnel in the future have the positive and active attitude toward the necessities, process, and roles of organ donation would be important to perform the medical personnel's role in organ donation in the future.

As the core manpower that occupies the biggest part in the healthcare medical site, and also has the most contact with subjects, the nurses should provide the high-quality and safe nursing to the subjects within the limited time in the rapidly-changing healthcare medical environment⁶. For the achievement of many organ donations and transplants, the nurses' roles in charge of providing the information about transplantation, direct nursing, education, counselling, and sup-

Corresponding Author:

Dr. Sunyoung Jang, Associate Professor, Department of Nursing, Hanseo University, South Korea
Email: sjang@hanseo.ac.kr

ISSN: 2231-2196 (Print)

ISSN: 0975-5241 (Online)

Received: 20.05.2020

Revised: 16.06.2020

Accepted: 22.07.2020

Published: 08.08.2020

port to donors, recipients, and their families, intervening and adjusting the overall procedures, and performing researches related to transplant are very important⁷. The subjectivity of perception when dealing with subjects in the nursing site has great effects on their nursing. Thus, it is important to understand the perception of nurses and pre-service nurses.

There is not much research on organ donation targeting nursing students. And as a methodology that could understand the characteristics of each type following the subjectivity structure of human, originated from the doers' perspective instead of the researcher's assumption⁸, the Q-methodology is a proper research method for verifying the types of nursing students' perception of organ donation by considering the subjectivity of the subjects as the nursing students' perception of organ donation is their subjective and unique experience.

Thus, this study aims to provide the basic data necessary for developing the differentiated educational programs following the characteristics of each type of organ donation targeting the pre-service nurses before going out to the nursing site where the organ donation is successfully performed, by understanding the subjectivity structure of organ donation in the perspective of nursing students.

PURPOSE

The objectives of this study are to provide the data to nursing students who start the organ donation by examining the types of subjective perception and the characteristics of the types of organ donation targeting the nursing students by applying the Q-methodology and also to provide the basic data for suggesting the strategies when educating the nursing students who just start the organ donation. The concrete objectives of this study are as follows.

- 1) The nursing students' subjective perception of organ donation is classified.
- 2) The characteristics of each type of nursing students' perception of organ donation are analyzed and described.

MATERIALS AND METHODS

Study design

To achieve the objectives of this study, after considering the literature, media data, and preceding researches on organ donation, this study finds the subjectivity viewing the types of subjective perception on organ donation targeting the nursing students who have experienced organ donation.

Q-population and Q-sampling selection

To extract the effects of organ donation and comprehensive statements focusing on the current nursing students, the Q-

population was drawn through the consideration of domestic and foreign relevant literature, open-ended questionnaire, and individual in-depth interview. Through this process, on top of drawing a total of three areas and about 200 Q-populations, this study drew about 100 Q-populations by integrating the collected literature through the consideration of domestic and foreign literature. Going through the procedure of reviewing and modifying the extracted Q-populations, finally, a total of 46 samples with high discrimination were selected.

P-sample selection method

As qualitative research emphasizing the individuals' inertia focusing on differences in the semanticity or importance within individuals instead of differences between individuals, the Q-methodology is based on the small sample doctrine⁹. According to this doctrine, when the p-sample gets larger, many people are concentrated in a single factor, so that the characteristics are not revealed. As the p-sample, this study selected a total of 20 nursing students who voluntarily agreed to participate in this study after fully explaining the objectives of this study to them.

Q-classification and data analysis methods

In the Q-classification process, the research subjects who have been selected as p-sample, make the voluntary definition of organ donation of each individual by classifying the statements of Q-sample in the forced normal distribution method⁹. The data was collected from 20 nursing students of OO college by using the Q-card. It took mostly 30-45 minutes for each research subject to complete the Q-classification. In the distribution of Q-sample, the research subjects classified the statements selected as Q-sample into strong affirmation and to strong denial depending on the importance based on their own opinions. The statement(Q1) about organ donation was classified on the 12-point scale. After that, further interview with the subjects was performed to the statements classified into the two extremes. For the Q-factor analysis, the Principle Component Factor Analysis(varimax) was used. The classification of types was selected by considering the results of variously inputting the number of factors base on Eigen value as 1.0 or up, and total explanatory variate. For the collected data, the transformed score is given as much as 1-12 points was changed into a score focusing on the forcedly distributed card on the Q-sample distribution table. By coding the given transformed score in the order of the Q-sample number, it was processed through the principal factor analysis by the QUANL PC Program. The data analysis was processed by using the QUANL pc program¹⁰⁻¹².

Ethical consideration for research SUBJECTS

Before starting the study, participants were informed that they could discontinue at any time at their discretion. All information collected for the rights and privacy of attendees was coded and stored anonymously.

To ensure the autonomy of participants, the purpose of the research, the method of research and the recording of the interview contents were explained first before the meeting.

Then, the ethical aspects of the box were considered by obtaining verbal consent, receiving consent, and making compensation commensurate with participation in the research. As a measure not to violate the privacy of participants according to the principle of bad behaviour, It was informed that the interview would be used only for research purposes, and personal situations were kept secret while ensuring anonymity. Also, It was informed that the research results would be published and the participants could stop participating in the research anytime they want. To avoid revealing the identity of research-participant, the computer file was assigned a unique password for the researcher and all information that could identify the participant was deleted.

RESULTS

Structure of Q type

In the results of conducting the Q-factor analysis on the nursing students' subjectivity on organ donation by using the QUANL pc program, there were two types. The correlation coefficients between the three factors are shown in [Table 1]. This shows the degree of similarity between the three types. The correlation coefficient between type 1 and type 2 is 0.5942. However, the correlation between factors in the Q method is different from the factor analysis method in the quantitative research, and since it focuses on finding the factors without presupposing the complete independence between the factors, there is no controversy over the method of factor extraction based on the high and low correlation.

Table 1: Correlations Between Factor Scores

Hospitals	Type I	Type II
Type I	1.000	.5942
Type II	-	1.000

Type specific characteristics in organ donation

To analyze the nursing students' subjectivity on organ donation in each type, first, the characteristics of each type were described by focusing on the statements of each type. Regarding the Q-response of p-sample(research participants), a total of two factors were extracted by dividing them into

upper-items and sub-items. In the Q-methodology, out of the persons belonging to each type, the person with higher factor weight means the ideal or typical person representing the type.

To analyze the characteristics of each type of organ donation, the meanings were interpreted by focusing on the statements with z-score as ± 1.00 or up of the items of classified statements. In this study, regarding the person with factor weight as 1.0 or up, a total of 11 of them belonged to type 1 while a total of nine people belonged to type 2.

In the results of analyzing the subjectivity on organ donation by using the PC QUANL program, there were two factors, which explained the 45.33% of total variate. Factor 1 was 34.23%, and factor 2 was 11.1%. As factor 1 has the explanatory power as much as 34.23%, it could be regarded as the factor that explains the organ donation the most [Table 2]. Out of the whole 20 research subjects, a total of 11 subjects belonged to factor 1 while a total of nine subjects belonged to factor 2. The subjects belonging to each factor mean a group of showing similar responses to organ donation.

Table 2: Eigen Value, Variance, and Cumulative Percentage

Hospitals	Type I	Type II
Eigen Value	6.8460	2.2191
Variance(%)	0.3423	0.1110
Cumulative(%)	0.3423	0.4533

ANALYSIS BY TYPE

The types of subjectivity on organ donation produced by this type of analysis method could be suggested as follows.

Type of Seeking for the Vitalization Measures for Organ Donation: The subjects belonging to type 1 were a total of 11 people. The statements in which the subjects of type 1 showed the strong affirmation included 'The most important thing for organ donation is self-determination ($Z=1.86$)', 'In case when having an experience of receiving an explanation of organ donation from medical personnel, the probability of organ donation increases ($Z=1.68$)', and 'I hope to receive the education of organ donation ($Z=1.49$)'[Table 3]. In type 1, the subject with the highest factor weight was No. 15 (1.2077), and the statements agreed the most were No. 36 and No. 18. The statements in which the subjects of type 1 showed the strong denial included 'I like to provide the information about organ donation to my family ($Z=-2.41$)', 'I hope that the government provides the cost for organ donation ($Z=-1.90$)', and 'In case when having an occupation, the probability of organ donation increases ($Z=-1.71$)'[Table 3]. In type 1, the subject with the lowest factor weight was No. 20(0.5224),

and the statements showing the biggest denial were No. 34 and No. 35.

In the characteristics of type 1, they thought that the sharing of experience or preliminary education of organ donation would have positive effects on organ donation. They thought that it would be necessary to secure organs for transplant through various methods for vitalizing the organ donation by the increase of organ transplant, and the promotion of organ donation would be important for this. They said that the public service advertisement or the improvement of people's perception could increase organ donation, and the permission of brain-death donation would bring a new life to many people. However, they did not aim to encourage organ donation to their own families. Thus, type 1 was named the 'type of seeking for the vitalization measures for organ donation'.

Type of Pessimism: The subjects belonging to type 2 were a total of nine people. The statements in which the subjects of type 2 showed the strong affirmation included 'The organ donation by brain death is high ($Z=1.97$)', 'The organ donation is avoided because of Confucian thoughts of Korea ($Z=1.57$)', and 'In case of the married, the probability of organ donation is high ($Z=1.53$)'[Table 3]. In type 2, the subject with the highest factor weight was No. 6(1.6383), and the statements agreed the most were No. 4 and No. 7.

The statements in which the subjects of type 2 showed the strong denial included 'I like to provide the information about organ donation to my family ($Z=-2.19$)', 'The organ donation is the best method to save dying patients ($Z=-1.51$)', and 'It would be great if the adolescents are empowered for organ donation ($Z=-1.46$)'[Table 3]. In type 2, the subject with the lowest factor weight was No. 9(0.0720), and the statements showing the biggest denial were No. 34 and No. 23.

In the characteristics of type 2, they thought of the vitalization measures for organ donation considering the characteristics of organ donors. They thought that the probability of organ donation would be high in brain-dead patients. They also judged that there would be more organ donation when married or having children. They thought that the surgery would be avoided due to the influence of Confucianism in Korea. They thought that people with religion would show the high tendency of organ donation based on their dedicated belief. Even though they thought that the organ donation could be institutionally encouraged by public service advertisement, they did not aim to recommend the organ donation to their own families as there would be a lot of other medical treatments. Thus, type 2 that was still showing this perception, was named the 'type of considering the characteristics of organ donors'.

Table 3: Representative items of organ donation and Z-score (N=20)

Factor	Type	Representative items of type			
		No	Representative items	Mean(SD)	Z-score
Factor1 (N=11)	Type 1	36	The most important thing for organ donation is self-determination.	10.09(2.256)	1.86
		18	In case when having an experience of receiving an explanation of organ donation from medical personnel, the probability of organ donation increases.	7.82(1.940)	1.68
		19	I hope to receive the education of organ donation.	6.00(3.435)	1.49
		8	If the public service advertisement is actively used, the organ donation increases.	7.36(2.203)	1.37
		20	In the case of death from cardiac arrest, the probability of organ donation increases.	6.27(3.133)	1.34
	Type 2	34	I like to provide information about organ donation to my family.	6.64(2.111)	-2.41
		35	I hope that the government provides the cost of organ donation.	4.73(1.794)	-1.90
		27	In case when having an occupation, the probability of organ donation increases.	3.17(1.722)	-1.71
		22	In case when my family applies for organ donation, the sorrow will be bigger.	6.00(3.033)	-1.65
		2	The knowledge about organ donation is low.	7.45(2.659)	-1.41
Factor2 (N=9)	Type 3	4	The organ donation by brain death is high.	6.67(2.828)	1.97
		7	The organ donation is avoided because of Confucian thoughts of Korea.	4.56(1.590)	1.57
		13	In the case of the married, the probability of organ donation is high.	5.00(2.449)	1.53

Factor	Type	Representative items of type		Mean(SD)	Z-score
		No	Representative items		
		8	If the public service advertisement is actively used, the organ donation increases.	6.67(2.179)	1.44
		6	The person with religion shows the high selection of organ donation.	4.33(2.739)	1.41
	Type 4	34	I like to provide information about organ donation to my family.	5.33(2.291)	-2.19
		23	Organ donation is the best method to save dying patients.	6.56(3.206)	-1.51
		45	It would be great if the adolescents are also empowered for organ donation.	7.11(1.900)	-1.46
		46	When the organ donation increases more, the organ trade will decrease.	7.22(2.587)	-1.44
		1	Owing to the development of organ transplant based on the advancement of medical technology, organ donation increases.	8.00(1.803)	-1.37

DISCUSSION

In the results of this study, the types of subjectivity on organ donation perceived by nursing students were divided into the 'type of seeking for the vitalization measures for organ donation' and the 'type of considering the characteristics of organ donors'. And this study aims to discuss the characteristics of each type.

Type 1 shown in this study was the 'type of seeking for the vitalization measures for organ donation'. They think that organ donation should be increased as the organ transplant is increasing. Thus, they are preferentially considering the methods to solve the shortage of organs. Also, they think that each individual has the autonomy of body selection, and self-determination is the most important than other surrounding influences. They thought that the vitalization of organ donation through education or public service advertisement could be supported of the national level, and also judged that the number of domestic organ donors would increase when there is institutional support.

The organ donation means that a brain-dead patient or his/her family provides an organ for nothing when a certain disease cannot be treated. The transplant of an organ donated by a patient suffering from an incurable disease by organ failure might be the best treatment for the prolongation of life¹³. Since the initial kidney transplant in 1979, the organ transplant of Korea has been repeatedly developing, and on top of kidney-transplantation, now, it is also possible to transplant of heart, liver, pancreas, and duodenum¹⁴. However, compared to the explosive increase of demand for organ transplantation, the transplantable donated organs are insufficient, so that it is difficult to treat the patients with organ failure¹⁵. Organ donation is the best treatment for patients with end-stage organ failure. Compared to the explosive increase of organ transplant, organ donation is very insufficient. Thus, it would be needed to put efforts and attempts for the vitalization of donation^{15,16}.

Even though the organ donation is gradually increasing together with the national promotion of organ donation in Korea, it would be more needed to discover the brain-dead for the active organ donation of the brain dead¹⁷. In the convergent/complex education, the nursing students as the leading nurses in the future should be able to promote the organ donation process by spending the last moment together with the brain dead, discovering the latent brain dead through continuous communication with family, and helping their decision-making process¹⁸. To ethically judge the issues occurring in this process and also assisting their decision-making, the correct consciousness of biomedical ethics is an essential factor to nursing students¹⁹.

Despite the rapid development of organ transplant itself, a lot of patients with end-stage organ failure end their lives without having a chance of benefit due to the shortage of organ donation. Recently, some private and religious organizations such as the Organ Donation Movement Headquarters of Love, Korea Kidney Patients Association, Life Share Association, and One Body and One Spirit, are actively continuing various activities for organ donation and transplant²⁰. Nevertheless, comparing the brain death donors of Korea with the current state of organ donors in major overseas countries, the number of donors per million of the population was 35.12 in Spain and 25.99 in the United States while it was very low as 8.44 in Korea²¹.

As the attitude could be changed depending on the degree of correct knowledge about organ donation, this study suggested the continuous researches and support develop effective programs and then reflect them in the educational contents²², and the educational experience of organ transplant was an important variable that could form the positive attitude toward the organ transplant²³. Thus, some researchers 24-27 was verifying the effects on the knowledge and attitude after providing the educational program of brain-death organ donation targeting the actual nursing students, students, nurses, or soldiers. Also, regarding the will to

practice the organ donation, the subjective norms and attitude, and interpersonal communication were reported as influence factors by applying the theory of planned behavior²⁸, and there are the results of research reporting that the knowledge has effects on the subjective norms and attitude that have effects on the organ donation intention²⁹. However, the relevant replication researches should be continuously conducted.

Type 2 was the 'type of considering the characteristics of organ donors'. They think that the tendency of organ donors should be considered as the organ donation is necessary for the organ transplant. They thought that the organ transplant could be vitalized if a proper policy would be established by setting up strategies based on the analysis of the tendency of organ donors. The active concentration would be needed in the level of institution or government.

To increase the rate of organ donation by vitalizing the organ donation, it would be necessary to increase the donation intention to register of tissue and organ by understanding people's attitude toward the tissue/organ donation of the dead, brain-dead, or survivors, increasing the level of their understanding and knowledge about tissue/organ donation, and also making them have a positive belief, which could be eventually led to the organ donation behavior³⁰. Especially, college students that would lead the future society and also play essential roles in forming a social consensus, it would be very important to form a positive belief in the tissue/organ donation through the correct knowledge and understanding of tissue/organ donation³⁰. Based on the necessities to cultivating the level of knowledge and understanding of tissue/organ donation of college students, preferentially, there should be a research on the current college students' attitude, knowledge, and intention of tissue/organ donation, and then it would be needed to suggest the educational/promotional measures necessary to vitalize the tissue/organ donation suitable for the results of the research.

The types of organ donation are divided into two types such as organ donation when alive when brain dead and after death. According to the Korean Network for Organ Sharing(KONOS), out of the whole donors in 2013, the organ donors when alive were 79.5%, which was followed by organ donors when brain dead(17.2%) and organ donors after death(3.3%). Most of the organ donations are the organ donation when alive and when brain dead³¹. Organ donation when alive, the donors' selection is important. In case of organ donation when brain dead, even though the donors have completed the registration, it is essential to get the consent from their families for the actual donation. Especially, for the increase of brain death organ donation, the roles of nurses who directly take care of the brain dead are very important in understanding the latent brain-dead early and then recommending the organ donation. Like this, the donation procedures of organ donation when alive

and when brain dead are different from each other so that the variables having effects on the organ donation intention could be different. However, examining the preceding researches related to organ donation, most of the preceding researches were handling a single type of organ donation, especially the organ donation intention when brain dead, except for research by Siegel et al.,³² on diverse factors having effects on the organ donation intention when alive and after death, and another research by Cha et al.³³ researching the factors having effects on the donation registration intention by each type of organ donation when alive, when brain dead, and after death. Thus, it would be meaningful to understand the factors having effects on the organ donation when alive and when brain dead as they are the major types of organ donation in Korea.

Even though the organ donation is gradually increasing together with the national promotion of organ donation in Korea, what is more, important is to discover the brain-dead for the active organ donation of the brain dead³⁴. In the convergent/complex education, the nursing students as the leading nurses in the future should be able to promote the organ donation process by spending the last moment together with the brain dead, discovering the latent brain dead through continuous communication with family, and helping their decision-making process³⁵.

This study explored the nursing students' subjective perception of organ donation, and then divided and analyzed it into two types. In the results of this study, most of the nursing students thought that the organ transplant would be continuously developing in the future as one of the last treatments of incurable diseases in the ageing society. Thus, as a method of supporting insufficient organs, currently, the organ transplant was mentioned as the most suitable method. To encourage the organ transplant, on top of the support in the level of government or institution, the supports like education for changes in individuals' perception would be needed as well.

In the characteristics of each type, there is the 'type of seeking for the vitalization measures for organ donation' mentioning the necessity to establish the institutional support or measures for vitalizing the organ donation, and the 'type of considering the characteristics of organ donors' mentioning the necessity to support suitably after understanding the characteristics of organ donors. This study on the subjectivity could be used as the basic data of organ donation support programs that grab attention recently. Moreover, it could be used as the basic data for the development of differentiated educational programs by suggesting the subjective structure of perception of organ donation and the characteristics of each type targeting the nursing students as preservice medical personnel.

However, this study targeted only a college, and could not select the research subjects by considering the factors having effects on the perception of organ donation, so that it

would be limited to generalize the results of this study. Thus, it would be needed to additionally verify the types by composing the Q-sample equipped with various backgrounds through further researches³⁶.

CONCLUSION

To establish the basic data necessary for seeking the vitalization measures for organ donation based on the subjective data analyzed by exploring the nursing students' subjective perception of organ donation, this study applied the Q-methodology. In the results of this study, the types of organ donation perceived by nursing students included the 'type of seeking for the vitalization measures for organ donation' and the 'type of considering the characteristics of organ donors'.

This study provided the basic data necessary for introducing or applying policies for vitalizing the organ donation support programs in the future by classifying the nursing students' subjectivity on organ donation. Based on the results of this study analyzed the types of nursing students' perception of organ donation and also verifying the characteristics of each type, the educational programs could be developed by considering the characteristics of each type. This study also suggests additional research on the analysis of types by selecting samples considering various factors, and also qualitative research for verifying various factors having effects on the nursing of the subjects of organ donation.

Acknowledgement: Authors acknowledge the immense help received from the scholars whose articles are cited and included in references of this manuscript. The authors are also grateful to authors / editors / publishers of all those articles, journals and books from where the literature for this article has been reviewed and discussed.

Conflict of Interest: None

Source of Support: None

REFERENCES

- Sung MH, Son EY, Lee SE. A study on knowledge and attitude of nurses regarding brain death organ donation. *Clin. Nursing Res.* 2006;12(1):125-35.
- Ha HS, Jeong JS, Chae YR, Hong JJ, Kim IO, Yi M, Moon DB, Lee SG. Psychosocial adjustment of the organ transplantation recipients in Korea. *J. Korean Soc. Tran.* 2007 Dec 1;21(2):269-81.
- Lee JA, Kim SY. The Knowledge and Attitude of Medical Students towards Organ Donation. *J. Korean Soc. Tran.* 2008 Jun 1;22(1):120-9.
- Lee WH, Moon OR, Kwak JY. A study on the analysis of relative factors of intensive care unit nurses' attitude in brain death organ donation. *J. Korean Soc. Tran.* 2001 Dec 1;15(2):217-24.
- Bidigare SA, Oermann MH. Attitudes and knowledge of nurses regarding organ procurement. *Heart and lung: the journal of critical care.* 1991 Jan;20(1):20-4.
- Wong CS, Law KS. The effects of leader and follower emotional intelligence on performance and attitude: An exploratory study. *The leadership quarterly.* 2002 Jun 1;13(3):243-74.
- Byun SJ, Kim HK, Kim AR, Ha HS, Joen KO. Task analysis of Korean transplantation nurse practitioner. *J. Korean Aca. Nur.* 2003 Apr 1;33(2):179-88.
- Stephenson W. Q-methodology, interbehavioral psychology, and quantum theory. *Psy. Record.* 1982 Apr 1;32(2):235.
- Whang SM, You SW, Kim JY, Kim RG. Consumer Types and Cultural Consumption Characteristics of Korean Society: Who Spends for What Reasons. *J. Human Subj.* 2006;13:25-39.
- Lee H., Jang S., Wang M. A Study on Patients' Perceptions of Patient Safety (Q method). *Asia-Pacific J. Law, Politics and Adm.* 2017;1(2):1-6.
- Wang M., Jang S. A Study on the Subjectivity of Nursing Students on Dating Violence. *Int. J. Adv. Nur. Edu. Res.* 2017; 2(1):97-102.
- Jang S. The Subjectivity for Open Adoption of Nursing Students. *Int J. Adv. Nursing Education and Res.* 2018;3(1):59-64.
- Lee WH, Moon OR, Kwak JY. A study on the analysis of relative factors of intensive care unit nurses' attitude in brain death organ donation. *J. Korean Soc. Tran.* 2001 Dec 1;15(2):217-24.
- Kim D. A study on the influential factors of attitude for organ donation. Master's thesis Seoul National University. 2003.
- Park YJ, Kang H, Kim EM, Shin WY, Yi NJ, Suh KS, Ahn C, Yoon BW, Park YH, Lee JN, Kim JH. Establishment of active identification and management system for potential brain dead donors in life-link center. *J. Korean Soc. Tran.* 2009 Jun 1;23(1):43-51.
- Choi E, Cha W, Shin T, Sim M, Jo I, Song K, Lee T, Choi B. A survey on doctor's attitude towards organ donation in brain death patient after cardiac arrest. *Korean J. of Med. Ethics.* 2013;16(1):117-23.
- Kim SH. Nurse's attitudes on organ donation in brain dead donors. *The Korean J. Hospice and Palliative Care.* 2006;9(1):11-6.
- Song YS, Lee MY. Attitudes on organ donation in brain dead donors of staff nurses. *The Journal of Korean Academic Society of Nursing Education.* 2008;14(2):216-23.
- Kwon YH. Factors affecting the consciousness of biomedical ethics of the nursing students. *J. Korean Public Health Nursing.* 2009;23(2):262-72.
- Kwon YM, Yeun EJ. Subjectivity on organ donation and transplantation. *J. Korean Academy of Nursing.* 2000 Dec 1;30(6):1437-54.
- Kim HC, Kim HW. The issues and suggestions of organ transplant in Korea. *Ewha Law Journal.* 2013;17(4):228-51.
- Choi HJ. The effect of university students' knowledge on attitude and practice will to organ donation in brain dead donors. Unpublished master's thesis, Korea University. 2012.
- Shon YH, Cho CM. Public's attitude to organ transplants and factors influencing attitudes. *J. Korean Academy of Fundamentals of Nursing.* 2002 Aug 1;9(2):279.
- McGlade D, Pierscionek B. Can education alter attitudes, behaviour and knowledge about organ donation? A pretest-post-test study. *BMJ open.* 2013 Dec 1;3(12).
- Rey JW, Grass V, Galle PR, Werner C, Hoffman A, Kiesslich R, Hammer GP. Education in organ donation among students in Germany-results of an intervention study. *Annals of transplantation.* 2013;18:23-30.
- Yilmaz TU. Importance of education in organ donation. *Experimental and clinical transplantation: official journal of the Middle East Society for Organ Transplantation.* 2011 Dec;9(6):370.
- You HS. The effect of brain death organ donation education on nurses' knowledge and attitude. *J. Korean Clinical Nursing Research.* 2009;15(2):57-65.

28. Kim HI, Cha H. The effect of social capital and interpersonal communication on the posthumous organ donation intentions: Application and expansion of the theory of planned behavior. *Korean Journal of Journalism and Communication Studies*. 2010; 54(6):173-98.
29. Kim EA, Choi SE. Structural equation modeling on living and brain death organ donation intention in nursing students. *J. Korean Academy of Nursing*. 2015 Dec 1;45(6):802-11.
30. Lee BJ. Attitude of undergraduate nursing and non-nursing students towards tissue and organ procurement: Knowledge, belief and behavioral intention study. Unpublished master's thesis. Ganneung-Wonju National University. Wonju. 2013.
31. Korean Network for Organ Sharing. Annual report of the transplant. 2013.
32. Siegel JT, Alvaro EM, Lac A, Crano WD, Dominick A. Intentions of becoming a living organ donor among Hispanics: a theory-based approach exploring differences between living and nonliving organ donation. *Journal of health communication*. 2008 Feb 8;13(1):80-99.
33. Cha DP. Factors affecting the college students' intentions to register and discuss the decision of organ donation with their family in situations of living, brain death, and heart death: Using an extended theory of planned behavior. *Advert Res*. 2010;87:7-40.
34. Kim SH. Nurse's attitudes on organ donation in brain dead donors. *The Korean Journal of Hospice and Palliative Care*. 2006;9(1):11-6.
35. Song YS, Lee MY. Attitudes on organ donation in brain dead donors of staff nurses. *J. Korean Aca. Soc. Nursing Edu*. 2008;14(2):216-23.
36. Jang S. A Study on the Subjectivity on Organ Donation of Nursing Students. *Int. J. Bio-Sci. and Bio-Tech*. 2020;12(1):21-26.