

Evaluating current legislative statement of organ transplant care

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Abstract

The research result was based on the statistical process and questionnaire for 118 hospital specialists in 5 hospitals to evaluate the current circumstance of Donor Law implementation and healthcare legislation for organ transplantation in Mongolia.

Keywords: Organ transplantation; Hospital legislation; Donor; Recipient

1. Introduction

To manage and monitor the transplantation of organs and tissue in Mongolia, the first relative Donor act was enacted in 2000, subsequently, the act has taken reenactment several times. As a result of changes, preventing living donors and supporting deceased donors; improvements in the legal environments of donors are in process [Donor Act, Ulaanbaatar 2000].

For instance, a reenactment of transplanting organs and tissue from deceased donors in 2012, the implementation is still insufficient. But in practical life, transplanting organs from living donors is widespread thus in the future, transplanting organs from deceased donors should be developed rather than living donors. The health and legal sectors should pay serious attention to this matter.

Some detailed regulations were made according to the changes in Donor law in 2018. These regulations include reducing financial pressure for citizens, improving the transplantation process and its monitoring, upgrading the legal environment for organ transplantation from deceased donors, transplanting blood stem cells from donors to patients, creating cord blood banking as well as blood stem cell banking, supplying the resource of blood products and blood substitutes then monitoring of resource, recruiting blood donors and glorifying them as well as encouraging them. In other words, with the changes in donor law, the issue of organ transplantation from deceased donors was clarified and the whole donor law was implemented [Revision of donor law Ulaanbaatar. 2018; Legal regulation of Donor, Tserenbat. M Ulaanbaatar. 2023].

In ancient Greek, Roman, and Chinese myths, it has been mentioned that gods and healers used cadavers, and animals in many cases of transplantation, and all the imagination back then came down to us in recent days.

Yet in 1905, Eduard Zirm successfully did the first full-thickness corneal transplant, also he completed circulatory anastomosis, and kidney transplantation surgery on a dog in 1912. He later worked with aviator Charles Lindbergh to

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invent a device for keeping organs viable outside the body, a precursor to the artificial heart. The first kidney transplantation was made from a deceased donor to a patient in 1936.

In 1954 the surgeons transplanted a kidney from 23-year-old Ronald Herrick into his twin brother, whereas, treatment of blood stem cells was transplanted to twin patients who had leukemia. Furthermore, the first lung and pancreas transplantation was successfully done in the 1960s[www.history.com/news/organ-transplants-a-brief-history]. In medical history, American surgeon Joseph Murray successfully performed a kidney transplant surgery from a living donor to a patient at Brigham Hospital in 1954[Robert M. Sade, MD. Brain death, cardiac death, and the death donor rule-J.SC Med Assoc. 2011 Aug; 107(4), 146- 149]

Currently, treatment of transplanting organs and tissues is in use in 93 countries and 90 of them have implemented the relative laws and acts. Rules and regulations should be followed to operate an organ transplantation surgery, such as:

- WHO proven instruction
- Relative law and regulations of the country
- Transplanting possible organs from a human
- Official permission
- Official brain-death diagnosis[Task Force Report of Developing Organ and Tissue Transplantation Draft Law, 2022]

This research aims to investigate and determine the comprehensive method of combining different law clauses. In Mongolia, we follow the laws and guidances of WHO, the World Organ Transplantation Association, and other relevant international regulations. However, some clauses of privacy law, family law, and social welfare law go against the donor law. Yet, proper medical and legislation research which urges the combination of donor law and the above-mentioned laws has not been done.

2. Materials and methods

In this research, a total of 118 staff were involved from 5 different hospitals including the First Central Hospital, the State Central Third Hospital, the National Cancer Center, the National Traumatology and Orthopedics Hospital, the General Hospital for the State Special Servants, and our goal for this research was to investigate the current legislation environment of donor transplantation care in Mongolia. We used basic sociological methods such as quantitative research methods including questionnaire, and content-analysis; qualitative research methods including observation-descriptive, interviews; and case study methods with 12-17 questions of question card.

We summed up research data in Microsoft Excel and processed some results by using “SPSS 25.0”. In outline statistics, a portion of qualitative variables were estimated. To estimate the difference in irrelevant quality variables, if the predicted value is less than five and relates to the prerequisite:

- If none, Pearson’s Chi-square test,
- In a term of at least one, the Fisher exact test method was used. If the R-value is less than 0.05, the forecast is considered accurate.

To create the open-ended question in the question sheet, we categorized questions with their concept and range. Furthermore, we created matrices, analyzed, and considered original ideas, results, guidance, and suggestions[Research mythology of Epidemiology by Chimedsuren. O, Ulaanbaatar 2004].

3. Result and discussion

To estimate the result, we categorized the hospitals into two including donor hospitals such as the State Central Third Hospital, and the National Traumatology and Orthopedics Hospital; transplant hospitals including the First Central Hospital, the National Cancer Center, and the General Hospital for the state special servants.

We investigated the survey participants with the questionnaire on the sufficient implementation of the current organ legislation 61.2% of participants answered “insufficiently”, 6.0% said “sufficient”, whereas 32.8% of participants answered, “don’t know”. If we divide the 61.2% of participants who answered “insufficiently” by age groups, 46.3% were 30-39 years old, 53.7% were male, and 73.2% of participants had 10+ years of work experience as a doctor and a

nurse. According to the result, participants who consider that law implementation is insufficient are mostly doctors and nurses who have many years of work experience. (Table 1)

Table 1 Ratio of current donor law implementation by doctors and nurses who work at donor hospitals

Ratio	Total	Sufficient		Insufficient		Don't know		P value	
	N	n	%	n	%	n	%		
Age									0.756
29 y.o and below	2	0	0.0	1	2.4	1	4.5		
30 - 39 y.o	33	2	50.0	19	46.3	12	54.5		
40 - 49 y.o	18	2	50.0	12	29.3	4	18.2		
50 - 59 y.o	13	0	0.0	9	22.0	4	18.2		
60 y.o and above	1	0	0.0	0	0.0	1	4.5		
Sex									0.500
Male	33	1	25.0	22	53.7	10	45.5		
Female	34	3	75.0	19	46.3	12	54.5		
Work experience									0.965
up to 2 years	4	0	0.0	2	4.9	2	9.1		
3-5 years	5	0	0.0	3	7.3	2	9.1		
6-9 years	10	1	25.0	6	14.6	3	13.6		
10 years and above	48	3	75.0	30	73.2	15	68.2		
Total	67	4	6.0	41	61.2	22	32.8		

We investigated the survey participants with the questionnaire on the sufficient implementation of the current organ legislation 63.8% of participants answered “insufficiently”, 14.9% said “sufficient”, whereas 21.3% of participants answered, “don't know”. If we divide the 63.8% of participants who answered “insufficiently” by age groups, 46.9% were 30-39 years old, 84.4% were male, and 53.1% of participants had 10+ years of work experience as a doctor and a nurse. (Table 2)

Table 2 Responses of current implementation ratio in donor law and regulation by doctors and nurses of transplant hospitals

Ratio	Total	Sufficient		Insufficient		Don't know		P value	
	N	n	%	n	%	n	%		
Age									0.464
29 y.o and below	10	3	42.9	5	15.6	2	25.0		
30 - 39 y.o	20	2	28.6	15	46.9	3	37.5		
40 - 49 y.o	11	2	28.6	6	18.8	3	37.5		
50 - 59 y.o	6	0	0.0	6	18.8	0	0.0		
60 y.o and above	0	0	0.0	0	0.0	0	0.0		
Sex									0.096
Male	35	4	57.1	27	84.4	4	50.0		
Female	12	3	42.9	5	15.6	4	50.0		

Work experience								0.192	
up to 2 years	0	0	0.0	0	0.0	0	0.0		
3-5 years	15	3	42.9	10	31.3	2	25.0		
6-9 years	7	1	14.3	5	15.6	1	12.5		
10 years and above	25	3	42.9	17	53.1	5	62.5		
Total	47	7	14.9	32	68.1	8	17.0		

4. Conclusion

Statistical significance arose at the end of the research. In total, 118 doctors and nurses suggested their opinion about the lack of regulation of the Donor Act implementation and relative laws and regulations, and transplant care nowadays. According to the open-ended questions, the uncertainty of law clauses impacts the lack of implementation and causes obstacles to follow. Furthermore, relating to organ and tissue transplantation, some function still needs to be developed such as the administration, organization units, lack of human resources, high rate of donor waiting, limited age for living donors, social welfare-related issues for organ and tissue donors, lack of training and knowledge sharing of organ and transplantation.

Doctors, nurses, and hospital specialists who serve in organ transplantation have below-average of knowledge the relative sector, and the implementation of Donor Law is insufficient which shows the potential risks that may occur in transplantation care.

Following the flourishing of the healthcare service, the legal environment should be improved thus we can prevent criminals such as human trafficking and organ trafficking.

Compliance with ethical standards

Disclosure of conflict of interest

No conflict of interest is to be disclosed.

References

- [1] Donor Law. Ulaanbaatar, 2000 он
- [2] Revision of donor law Ulaanbaatar. 2018
- [3] Legal regulation of Donor, Tserenbat. M Ulaanbaatar. 2023
- [4] www.history.com/news/organ-transplants-a-brief-history
- [5] Robert M. Sade, MD. Brain death, cardiac death, and the death donor rule-J.SC Med Assoc. 2011 Aug; 107(4), 146- 149
- [6] Task Force Report of Developing Organ and Tissue Transplantation Draft Law, 2022
- [7] Research mythology of Epidemiology by Chimedsuren. O, Ulaanbaatar 2004