

# **Knowledge and Attitudes of Academicians Towards Organ Donation: A Concept Paper**

**Liatul Izian Ali Husin<sup>1</sup>, Noorizan binti Mohamad Mozie<sup>2</sup>, Norfazlina binti Ghazali<sup>3</sup> and Nor Azmaniza Azizam<sup>4</sup>**

<sup>1</sup> Faculty of Business and Management  
Universiti Teknologi MARA  
42300 Puncak Alam, Selangor  
*liatul@uitm.edu.my*

<sup>2</sup> Faculty of Business and Management  
Universiti Teknologi MARA  
42300 Puncak Alam, Selangor  
*noorizan0321@uitm.edu.my*

<sup>3</sup> Faculty of Business and Management  
Universiti Teknologi MARA  
42300 Puncak Alam, Selangor  
*norfazlina4843@uitm.edu.my*

<sup>4</sup> Faculty of Business and Management  
Universiti Teknologi MARA  
42300 Puncak Alam, Selangor  
*norazm8472@uitm.edu.my*

Received: 10 September 2020

Revised from: 28 September 2020

Accepted: 15 October 2020  
Published: 31 October 2020

## **Abstract**

The purpose of this paper is to examine the contributing factors towards the intention to become an organ donor. The literature review is on the main issue about the awareness of public about organ donation. In Malaysia only 420,601 pledgers of organ donation which is equivalent to 1.3 percent of the total population of Malaysia. This figure is not sufficient to meet the demand from patients in the organ waiting list. Literature reported that the level of awareness in Malaysia is still low. Low organ donation rates have been linked to a lack of public awareness and knowledge about organ donation. In order to get a better insight of what factors that may contribute to the intention of a person to become an organ donor, this paper, based on the past literature propose two factors: Knowledge and attitude as the predictor variables towards intention. The study intends to collect data from the academicians in the Universiti Teknologi MARA, Selangor. The outcome of this research can offer a better understanding towards the intention to become an organ donor. It also provide a better insight to the public health agency to disseminate information to increase the awareness and knowledge about organ donation.

**Keywords:** Organ Donation, Knowledge, Attitude, Awareness, Organ Donation Intention

## **1. Introduction**

Organ transplantation as a form of medical advancement is one of the most preferred treatments for many end-stage organ diseases worldwide. Although the outcome of successful organ

transplantations is well known but its potential is strongly depending on the number of people who are willing to donate their organs in the very beginning. Despite the contemporary advances and breakthrough in medical field, there has been a relatively slow progress in the supply of organs for transplantation. Apart from that, organ transplantations also known to be debated as contributing to medical issue apart from known as a complex psychological and social challenge that involves various groups of people: living organ donors and their family members, the family members of deceased organ donors, medical professionals and organ recipients. Notwithstanding, evidence still suggests that the demand of organs for transplantation is increasing constantly (Matesanz et al. 2009). In any countries and regions throughout the world, reports indicated that there is a chronic imbalance between the number of donors and the numbers of patients on a waiting list in need for organ transplantation (Gomez, Perez, & Manyalich, 2013). One of the solutions can be undertaken to the high demand and critical shortage situations is to increase the number of organs donors (Hu, & Huang, 2015). Therefore, one's willingness to become a donor need to be thought of and worked hard for to increase the number of potential donors.

There are many contributing factors that affect one's willingness to donate organs. Studies shown that many factors influenced people's willingness to donate organs upon death, such as ethnicity (Abidin et al., 2013; Rasiyah et al., 2014; Loch et al., 2010), income (Rasiyah et al., 2014) and sex (Rasiyah et al., 2014, Loch et al., 2010). Knowledge and attitude (Hu, Huang, 2015; Hajjar et al., 2016; El Hangouche, 2018; İbrahimoglu, & Urhan, 2019) are also among other factors that gives a major impact on determining and shaping one's intention and willingness to donate organs. Some researchers have reported that there is a positive correlation between knowledge toward organ donation and the donation behaviour (Tokalak et al., 2006; Sander & Miller, 2005; Figueroa et al, 2013; Boey, 2002). McCoy and Bell (1994) concluded that knowledge and positive attitudes were important when providing support to families and care for potential donors, which could increase the supply of donors for transplants thus catering the critical shortage in organs to be donated. It has been suggested that knowledge, and attitudes toward organ donation have been shown to influence public awareness and willingness to register. Insufficient knowledge and failure to identify possible donors are considered important contributing factors responsible for the deficiency of available organs. Consequently, it is an utmost essential to understand one's knowledge and attitudes that mould their intention towards organ donation. There were many studies being carried out looking into this relationship among health professions (Dutra, et al., 2004; Bilgel, 2006; Hu, & Huang, 2015; Gerbi, et al., 2020; Milaniak, et al., 2020) but very few studies done among education professionals. Therefore, this paper is aimed to explore this relationship among the academic staff of Universiti Teknologi MARA Selangor.

### 1.1 Research Objectives

1. To assess attitudes, knowledge, and intention to donate organ among academic staff in UiTM Selangor, Puncak Alam Campus.
2. To investigate major predictor leads to the intention to donate organ among academic staff in UiTM Selangor, Puncak Alam Campus.

## **2. Literature Review**

It is quite common to think of such an important verdict to donate one's organ is difficult to be decided by merely normal people; probably because they possess less knowledge. It is much likely to imagine that all professionals are easily deciding on such decision because they are more educated and knowledgeable; but it real, it is not as straightforward as that. It is not just knowledge that count, attitude also plays some degree of role to secure an intention to donate organ. This paper is intended to understand how knowledge and intention could groom a professional's intention to do so.

### **Knowledge**

Knowledge about organ donation has demonstrated to have an effect on attitude towards organ donation. Many studies have found a positive correlation between knowledge and organ donation. View towards organ donation can even change when people being encountered by someone who has experience with organ transplantation. (Rumsey, Hurford, & Cole, 2003a). According to Park, Yun, Smith and Morrisonn (2010) people will act according to their existing knowledge or based on others' experience. This is also supported by Walker et.al (2013) that prior knowledge or experience may influence the decision. Together with a better knowledge and information, this may result in the act of organ donation.

According to Nazni et al. (2012), awareness was related to the knowledge of a person. Gupta et al. (2009), states that knowledge was a major step in raising awareness among the society. This statement showed that the knowledge a person has about something is important to increase her/his awareness. The shortages in organ supply are perceived to be due to lack of awareness among public and insufficient information provided by health provider. A study done by Tumin, Noh, Jajri, Chong, Manikam, & Abdullah (2013) revealed that contributing factors to the low donation rate in Malaysia are a combination of the public's lack of trust in the state's ability to carry out proper organ procurement and medical procedures, and a lack of medical information on organ donation. This lack of information is especially telling because the majority of respondents had little knowledge on deceased organ donation. This affect their willingness to sign up as the organ donor as they thought that the procedure will be carried out while they are still alive. Another study by Paraz, Truong, Sai, Cajucom, Chan, & Kassim, (2016) found that lack of knowledge about corneal donation among Malaysian and Singaporean youth made them less willing to donate and higher willingness is associated to low basic knowledge about the donation process.

### **Attitude**

Knowledge, attitude and behaviors are the key factors that influence rates of organ donation (Vijayalakshmi, 2016). Culture and religion have also been documented to affect the decision-making process of organ donation. Attitude towards organ donation varied in each culture, religious, educational background, gender, age group, socioeconomic status and previous exposure of organ donation and transplant (Yusmalisa, 2008). Few studies have been conducted to examine the socio-demographic characteristics that might give a deeper understanding of people's reasons for not pledging, as well as their knowledge, attitudes and practices regarding organ donation (Yeung et al., 2000; Loch et al., 2010; Callender & Miles,

2011). Knowing people's attitudes toward organ donation and the focal constructs behind the attitudes also help us to take more specific actions (Ríos et al., 2017; Ríos Zambudio, 2018). Hence, it is crucial to assess the knowledge and attitudes of the target people towards organ donation.

Attitude of family members toward organ donation and attitude of individuals toward death play important roles in upholding willingness in organ donation (Lei, Deng, Zhang Dong, Luo, & Luo, 2018). It has been reported that in some other countries that some people will reject organ donation because of the effort to preserve the integrity of the body because of religious reasons (Nordfalk, Olejaz, Jensen, et al., 2016; Agrawal, Binsaleem, Al-Homrani, et al. 2017). Some other factors associated with reluctance towards donating one's organs after death were low education level, race, older age ( $\geq 50$  years old) and Muslim religion (compared to Hindus) (Loch, Hilmi, Mazam, Pillay, Choon, 2010). As the Malaysian government does not plan to adopt an opt out policy for organ donation any time in the near future; increasing awareness, improving methods to register and making sure that family members are involved in the decision making process are also important steps that must be taken if Malaysia is to progress in the field of organ transplantation (Loch, Hilmi, Mazam, Pillay, & Choon, 2010).

### **Intention to Donate**

One limitation of the availability of organs for transplantation is the number of people who, before death, have indicated their willingness to be an organ donor. Willingness is used as an auxiliary to indicate one's wish, desire or intention towards a particular matter. The researchers had also measured the willingness of Muslims to become organ donors by examining whether people have signed up to be an organ donor, has the desire to become an organ donor and if they support or give encouragement to others to become an organ donor. This conceptual framework suggest that people's intention to become an organ donor most likely to be influenced by their attitude and knowledge towardd organ donation. According to Azjen (1988) behavior is the best predicted by intention. Thus, this study use intention as to measure the behaviour.

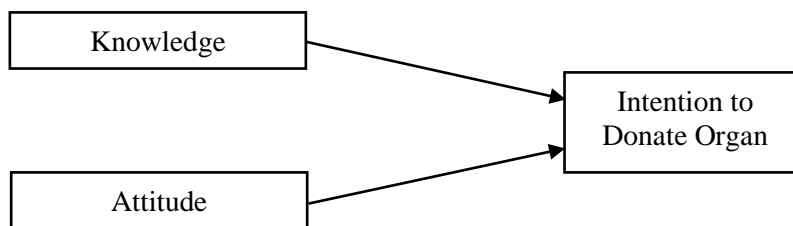


Fig. 1 Conceptual Framework on Knowledge and Attitude towards the Intention to Become an Organ Donor

### **3. Methodology**

The aim of this paper is to determine the knowledge and attitudes of academic staff toward organ donation. A quantitative research approach will be deployed, and the sample will be chosen from academic staff in Universiti Teknologi MARA (UiTM), Selangor. In order to maintain the

robustness of the study, the research purpose and definitions will be explained before answering the online questionnaire. In order to calculate the sample size, the Confidence Interval 5% error technique is used to measure the appropriate sample size with a predictive power of 0.95. The estimates indicate that the sample size needed is 248. The data collection is plan to be completed within two months period. All questions were measuring the constructs will be adapted from Porredi et al. (2015). The items will be assessed on a 5-point Likert scale from "Strongly disagree "to" Strongly agree" and nominal scale. The data will be gathered using online questionnaires whereby academic staff will be provided with a link to the online survey. All participants within took about 10-15 minutes to answer the questionnaire.

#### **4. Data Analysis**

Univariate analysis will be done to identify the differences of each contributing factor between the "intent to register" and the "no intent to register" groups. The Chi-Square test will be used to analyze categorical factors and the Independent T-Test (if data is normally distributed) Mann-Whitney rank sum test (if data is not normally distributed) will be used to analyze continuous factors. For all factors, the unadjusted odds ratio for intent to register, with 95% confidence intervals, was derived. Factors with a P value  $<.20$  from the univariate analysis were selected into the stepwise logistic regression model to identify independent contributing factors to intent to register for organ donation. Adjusted odds ratios and their 95% confidence intervals were derived for the significant factors entered in the model.

#### **5. Conclusion**

This paper has indicated that despite the contemporary advances and breakthrough in medical field, there has been a relatively slow progress in the supply of organs for transplantation. In addition, we found that many articles were mainly empirical with the main focus on this relationship among health professions but very few studies are conducted among education professionals. Hence, this study attempted to develop a research model to reduce the gap by concentrating on the factors of organ donation intention such as knowledge and attitudes. Future work will proceed to the validation of the research model through non-experimental work using academic staff at Universiti Teknologi MARA as the participants. The outcome of this research can offer a better understanding towards the intention to become an organ donor.

#### **Acknowledgments**

The authors gratefully acknowledge the Faculty of Business and Management, Universiti Teknologi MARA, Puncak Alam Campus, Selangor, Malaysia for the funding and dedicated support towards this research. Most profound gratefulness likewise to team members in providing constant commitment towards the accomplishment of this research project.

## References

- Abidin, Z. L. Z., Ming, W. T., Loch, A., Hilmi, I., & Hautmann, O. (2013). Are health professionals responsible for the shortage of organs from deceased donors in Malaysia?. *Transplant International*, 26(2), 187-194.
- Agrawal, S., Binsaleem, S., Al-Homrani, M., Al-Juhayim, A., & Al-Harbi, A. (2017). Knowledge and attitude towards organ donation among adult population in Al-Kharj, Saudi Arabia. *Saudi Journal of Kidney Diseases and Transplantation*, 28(1), 81.
- Ajzen I. *Attitudes, Personality, and Behavior*. Milton Keynes: Open University Press Google Scholar; 1988
- Bilgel, H., Sadikoglu, G., & Bilgel, N. (2006). Knowledge and attitudes about organ donation among medical students. *Transplantationsmedizin*, 18(2), 91.
- Boey, K. W. (2002). A cross-validation study of nurses' attitudes and commitment to organ donation in Hong Kong. *International Journal of Nursing Studies*, 39(1), 95-104.
- Callender, C. O., & Miles, P. V. (2011). Minority Organ Donation: The Power of an Educated Community. *J Am Coll Surg*, 210, 708-717. <http://dx.doi.org/10.1016/j.jamcollsurg.2010.02.037>
- Dutra, M. M. D., Bonfim, T. A. S., Pereira, I. S., Figueiredo, I. C., Dutra, A. M. D., & Lopes, A. A. (2004, May). Knowledge about transplantation and attitudes toward organ donation: a survey among medical students in northeast Brazil. In *Transplantation proceedings* (Vol. 36, No. 4, pp. 818-820). Elsevier.
- El Hangouche, A. J., Alaika, O., Rkain, H., Najdi, A., Errguig, L., Doghmi, N. & Dakka, T. (2018). Knowledge, attitudes, and practice of organ donation in Morocco: A cross-sectional survey. *Saudi Journal of Kidney Diseases and Transplantation*, 29(6), 1358.
- Figuroa CA, Mesfum ET, Acton NT, et al. Medical students' knowledge and attitudes toward organ donation: results of a Dutch survey. *Transplant Proc*. 2013; 45: 2093–2097.
- Gerbi, A., Bekele, M., Tesfaye, S., Chane, G., & Markos, Y. (2020). Knowledge, attitude, and willingness towards cadaveric organ donation among Jimma University medical centre health care professionals. *Translational Research in Anatomy*, 18, 100056.
- Gomez MP, Perez B, Manyalich M. International Registry in Organ Donation and Transplantation—2013. *Transplant Proc*. 2014; 46:1044–1048.
- Hajjar, W. M., Abdulqader, S. B., Aldayel, S. S., Alfardan, A. W., & Alzaidy, N. I. (2016, September). Knowledge, attitudes, and beliefs toward organ donation among social media users. In *Transplantation proceedings* (Vol. 48, No. 7, pp. 2418-2422). Elsevier.
- Gupta, A., Jain, S., Jain, T., & Gupta, K. (2009). Awareness and perception regarding eye donation in students of a nursing college in Bangalore. *Indian journal of community medicine: official publication of Indian Association of Preventive & Social Medicine*, 34(2), 122.
- Hajjar, W. M., Abdulqader, S. B., Aldayel, S. S., Alfardan, A. W., & Alzaidy, N. I. (2016, September). Knowledge, attitudes, and beliefs toward organ donation among social media users. In *Transplantation proceedings* (Vol. 48, No. 7, pp. 2418-2422). Elsevier.
- Hu, D., & Huang, H. (2015). Knowledge, attitudes, and willingness toward organ donation among health professionals in China. *Transplantation*, 99(7), 1379-1385.
- İbrahimoglu, Ö. & Urhan, S. (2019). Knowledge, attitudes, and behaviors of healthcare workers about organ donation. *Sağlık Akademisyenleri Dergisi*, 6(2), 142-149.
- Lei, L., Deng, J., Zhang, H., Dong, H., & Luo, Y. (2018, December). Level of organ donation-related knowledge and attitude and willingness toward organ donation among a group of university students in Western China. In *Transplantation Proceedings* (Vol. 50, No. 10, pp. 2924-2931). Elsevier.
- Loch, A., Hilmi, I. N., Mazam, Z., Pillay, Y., & Choon, D. S. K. (2010). Differences in attitude towards cadaveric organ donation: observations in a multiracial Malaysian society. *Hong Kong Journal of Emergency Medicine*, 17(3), 236-243.
- Matesanz, R., Mahillo, B., Alvarez, M., & Carmona, M. (2009). Global observatory and database on donation and transplantation: world overview on transplantation activities. *Transplantation Proceedings*, 41(6), 2297–2301
- McCoy LK, Bell SK. Organ donation and the rural critical care nurse. *Am J Crit Care*. 1994; 3: 473–475.
- Milaniak, I., Rużyczka, E. W., & Przybyłowski, P. (2020, September). Factors Influencing Decision Making About Living Donation among Medical Students. In *Transplantation Proceedings* (Vol. 52, No. 7, pp. 1994-2000). Elsevier.
- Noordin, nazmi @ nazni & Zakaria, Zaherawati & Aminuddin, Adnan & Yaacob, Aini & Hilmie, Mohd & Sawal, Mohd & Daud, Mohd & Shahimi, Azrul & Yusof, Mohd & Kamarudin, Ngah. (2012). Organ Donation among Malaysian: The Malay Dilemma toward Social Development. *Asian Social Science*. 8. 10.5539/ass.v8n10p8.
- Nordfalk, F., Olejaz, M., Jensen, A. M., Skovgaard, L. L., & Hoeyer, K. (2016). From motivation to acceptability: a survey of public attitudes towards organ donation in Denmark. *Transplantation research*, 5(1), 5.
- Paraz, C. M. A., Truong, H. T. T., Sai, D. K., Cajucom-Uy, H. Y., Chan, C. L. L., & Kassim, S. M. (2016). Knowledge and attitudes toward corneal donation among Singaporean youth: a cross-sectional study. *Eye and Vision*, 3(1), 17.
- Park, H. S., Yun, D., Smith, S. W., & Morrison, K. (2010). Family communication patterns and willingness to engage in family discussion about organ donation in the United States. *Global Journal of Health Science*, 2(2), 61–71.

- Porredi, V. & R. Thimmaiah, S. B. (2015). Math "attitude towards people with mental illness among medical students"; *J Neurosci Rural Pract.* July- Sep; 6(3):349-354
- Rasiah, R., Manikam, R., Chandarsekaran, S. K., Thangiah, G., Puspharajan, S., & Swaminathan, D. (2014). The influence of socioeconomic and demographic variables on willingness to donate cadaveric human organs in Malaysia. *Medicine*, 93(23).
- Ríos Zambudio, A. (2018). International collaborative donor project. *Cirugía Española*, 96(2), 69–75.
- Ríos, A., López-Navas, A. I., García, J. A., Garrido, G., Ayala-García, M. A., Sebastián, M. J., Parrilla, P. (2017). The attitude of Latin American immigrants in Florida (USA) towards deceased organ donation—A cross section cohort study. *Transplant International*, 30, 1020–1031.
- Rumsey, S., Hurford, D. P., & Cole, A. K. (2003a). Influence of knowledge and religiousness on attitudes toward organ donation. *Transplantation Proceedings*, 35(8), 2845–2850.
- Sander, S. L., & Miller, B. K. (2005). Public knowledge and attitudes regarding organ and tissue donation: an analysis of the northwest Ohio community. *Patient Education and Counseling*, 58(2), 154-163.
- Tokalak I, Kut A, Moray G, et al. Knowledge and attitudes of high school students related to organ donation and transplantation: a crosssectional survey in Turkey. *Saudi J Kidney Dis Transpl.* 2006; 17: 491–496.
- Tumin, M., Noh, A., Jajri, I., Chong, C. S., Manikam, R., & Abdullah, N. (2013). Factors that Hinder Organ Donation: Religio-Cultural or Lack of Information and Trust. *Experimental and Clinical Transplantation: Official Journal of the Middle East Society for Organ Transplantation*, 11(3), 207-210.
- Vijayalakshmi, P., Sunitha, T. S., Gandhi, S., Thimmaiah, R., & Math, S. B. (2016). Knowledge, attitude and behaviour of the general population towards organ donation: an Indian perspective. *The National medical journal of India*, 29(5), 257.
- Walker, W., Broderick, A., & Sque, M. (2013). Factors influencing bereaved families' decisions about organ donation: An integrative literature review. *Western Journal of Nursing Research*, 35, 1339–1359.
- Yeung, I., Kong, S. H., & Lee, J. (2000). Attitudes towards organ donation in Hong Kong. *Social science & medicine*, 50(11), 1643-1654.
- Yusmalisa, binti Yaacob (2008) Knowledge and attitude among Malays in Kuching, Sarawak towards organ donation. [Final Year Project Report] (Unpublished)