



INTERNATIONAL JOURNAL OF ACADEMIC RESEARCH IN BUSINESS & SOCIAL SCIENCES



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Tengku Izzah Shahalina binti Tengku Anuar, Mohd Rozaimy bin Ridzuan, Noor Amira Syazwani binti Abd Rahman

To Link this Article: <http://dx.doi.org/10.6007/IJARBSS/v12-i9/14708>

DOI:10.6007/IJARBSS/v12-i9/14708

Received: 12 July 2022, **Revised:** 16 August 2022, **Accepted:** 30 August 2022

Published Online: 14 September 2022

In-Text Citation: (Anuar et al., 2022)

To Cite this Article: Anuar, T. I. S. binti T., Ridzuan, M. R. bin, & Rahman, N. A. S. binti A. (2022). To Be A Donor or Not to Be? The Intentionality of Organ Donation for Transplantation among Residents in Dungun, Terengganu. *International Journal of Academic Research in Business and Social Sciences*, 12(9), 995 – 1006.

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Vol. 12, No. 9, 2022, Pg. 995 – 1006

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INTERNATIONAL JOURNAL OF ACADEMIC RESEARCH IN BUSINESS & SOCIAL SCIENCES



www.hrmars.com

ISSN: 2222-6990

To Be A Donor or Not to Be? The Intentionality of Organ Donation for Transplantation among Residents in Dungun, Terengganu

Tengku Izzah Shahalina binti Tengku Anuar¹, Mohd Rozaimy bin Ridzuan², Noor Amira Syazwani binti Abd Rahman³

¹Faculty of Administrative Science & Policy Studies, UiTM Terengganu Branch, Dungun Campus, Dungun, Malaysia, ^{2,3}Faculty of Administrative Science & Policy Studies, UiTM Pahang Branch, Raub Campus, 27600 Raub, Pahang, Malaysia

Abstract

There is a significant disparity between the availability and demand for organs, making this a worldwide problem. The situation happens in Malaysia as well since those in need of an organ transplant may have to wait years for a suitable donor to be located. The patient's risk of developing serious health problems or possibly passing away rises in proportion to the length of time they must wait. Given the current organ shortage, it is crucial to investigate the factors associated with organ donation intention. Knowledge, attitude, moral values, and perceived benefit and risk are the independent variables of the study, and organ donation intention is the dependent variable of the study. This cross-sectional study employs 129 respondents living in Dungun, Terengganu. The sampling technique used is a convenient sampling technique and SPSS version 24 is employed to analyze the data of the study. The findings of the study show that attitude, moral values, and perceived benefit and risk were found to be associated with organ donation intention. However, knowledge is not correlated with organ donation intention. This study also found that attitude toward organ donation is the most significant factor that influences organ donation intention. These results have implications for the design of effective public policies and programs to increase organ donor registration among the general public.

Keywords: Attitude, Knowledge, Moral Values, Organ Donation, Organ Transplantation

Introduction

Since the 1980s, the number of people requiring a transplant has skyrocketed as the prevalence of chronic diseases including diabetes, hypertension, and obesity has spread around the world. Since these metabolic disorders are associated with multiple organ failures, organ transplantation is recognized as a lifesaving procedure for patients with potentially terminal illnesses. Kidney, liver, pancreas, intestine, heart, and lung transplantation are now standard medical procedures around the globe. As the number of people in need of organ transplants rises, yet there are not enough available organs, there is a severe shortage in the market (Bekele et al., 2021).

Organ donation is defined as the legal removal and transfer of biological tissue or an organ of the human body from a living individual with consent or from a deceased person with assent from next of kin to a living recipient in need of transplantation (World Health Organization (WHO, 2009). Bekele et al (2021) report that a worldwide lack of organs is a major health concern. In most of the world, more people are waiting for an organ transplant than there are donors (Benitez & Wolff, 2018; Jadowiec & Taner, 2016).

Lack of knowledge, negative attitude, cultural and religious beliefs of the public and professionals involved in the organ donation procedure, as well as the burden of infectious diseases and significant budget cuts in the public health sectors, have all harmed the organ donor pool (Fawzy & Ahmed, 2014; Bekele et al., 2020). Multi-pronged strategies are needed to address the growing disparity between the number of people in need of a transplant and the number of people who are willing to donate organs (Almutairi, 2020).

Though organ transplantation is becoming increasingly common, there is still a worldwide concern about a shortage of donor organs in many nations. Regardless of serious efforts of the Malaysian government to increase deceased organ donation, the donation rate currently stands at 0.53 donor per one million population in 2019, which was among the lowest rate in the world (International Registry on Organ Donation and Transplantation Malaysia, 2019). Only 1.3 percent of Malaysians have taken the pledge. This amounts to 420,601. The number of people on the organ waiting list far outstrips this supply. The awareness of organ donation in Malaysia is still low (Yunus et al., 2018).

According to Dr. Alias Razak, head of the Local Government, Housing, Health and Environment Committee for the state of Terengganu, only 1.8% of the population has signed up to be organ donors in the event of their death. Only 22,540 people out of more than 1.2 million in Terengganu had signed the pledge so far (Razak, 2020). Due to the low availability of donors, identifying reasons for willingness to donate organs is essential. Hence, this study attempts to examine factors associated with organ donation intention in Terengganu, specifically in Dungun. This study also is intended to identify the most significant factor that influence organ donation intention among residents in Dungun, Terengganu, Malaysia. An in depth understanding of the intention to donate organs in relation to knowledge, attitude, moral values and perceived benefit and risk may help in developing educational programs and highlight areas that require improvement and implementation of policymakers and health-care workers.

Literature Review

Variations in organ donation awareness between nations account for the global range of 60 to 85% (Saleem et al., 2009). Knowing that their organs can save the lives of others through donation motivates many people to give them up (Hyde & White, 2010). In their research, Murakami et al (2020) showed that individuals who knew a lot about organ donation and transplantation were more likely to sign up as donors. In addition, a study of 724 US doctors across disciplines found that those who had previously identified as donors had a better grasp of the difficulties surrounding the country's organ shortage (Alkhatib et al., 2014). Furthermore, Siminoff et al (2001) discovered that low organ donation rates have been connected to a general lack of public awareness and information about organ donation. Furthermore, greater knowledge of organ donation was connected with a willingness to

become an organ donor, which is consistent with earlier research (Figueroa et al., 2013; Wale et al., 2014).

In terms of attitude, behavioral evidence of people's willingness to donate or not donate their organs appears to be an exceptionally valid measure of people's attitude toward donation (Dijker et al., 2019). Attitudes toward organ donation influence the desire to donate an organ. Individuals appear to support organ donation regardless of race or ethnicity due to good sentiments regarding donation (Morgan & Miller, 2002). Individual attitudes regarding organ donation, according to the Institute of Medicine of the National Academies (2006), are dependent on awareness and knowledge, implying that educating people and providing the correct information could develop a good attitude toward organ donation. According to an empirical study, a favorable attitude regarding organ donation, particularly among health professionals, can positively affect a potential donor (Schaeffner et al., 2004). Attitudes about organ donation are closely related to both conduct (signing a donor card, for example) and behavioral intention (among non-donors) to sign a card in the future (Pauli et al., 2017).

When the moral value of an individual's acts is primarily focused on the benefit of other people, without concern for the consequences to the individual herself, the individual's actions are considered "Altruistic" (Dalal, 2015). Moral norm (Ajzen, 1991) refers to one's moral standards, which indicate that announcing the donation decision is the proper thing to do. According to several studies, people realize the benefits of organ donation for others, such as saving lives or contributing to scientific research (Hyde & White, 2009; Morgan et al., 2008).

Based on the above literature, we propose the following hypotheses:

H¹: There is a positive relationship between knowledge and organ donation intention.

H²: There is a positive relationship between attitude and organ donation intention.

H³: There is a positive relationship between moral values and organ donation intention.

H⁴: There is a positive relationship between perceived benefit and risk and organ donation intention.

Research Methodology

Purposive sampling was employed in this quantitative study. There were 129 people from Dungun, Terengganu, who were used as participants in the study. To ensure there was consistency across measures, this study used 5-point Likert scales for all continuous variables. This is because Likert-type scales retain their metric qualities regardless of the number of points, and this form of scale was included in the majority of the study's original instruments. Self-administered online questionnaires were used to compile the data. Information provided by respondents was not shared with any third parties. The demographic profile, knowledge, attitude, moral principles, and perceived benefit and risk of organ donation were all acquired by questionnaires. Input and processing of the raw data for further statistical analysis have been completed. Using SPSS, the gathered data was cleansed and analyzed. Descriptive statistics like frequency and percentage were used to sketch out the sample population. Independent and dependent variables' correlation was analyzed using Pearson's Correlation analysis. Ultimately, multiple regression analysis was used to zero in on the single most important predictor of organ donation intention.

Research Findings

Demographic Profile of Respondents

Table 1 depicts the demographics of those who took part in the survey. This survey included 129 people who live in Dungun, Terengganu. Before data collection, respondents were informed and discussed the goal of the study as well as the study's contributions to the community. According to the descriptive statistics, the majority of respondents (76 percent) were female, with males accounting for the remaining 24 percent. The most populous age group was 20 to 30 years old (58.1 percent), and the majority of respondents had a university or college education (70.5 percent). Furthermore, the majority of responders work in the private sector (33.3 percent). Aside from that, the majority of them earned between RM1000 and RM3000 every month.

Table 1

Profile of Respondents (N = 129)

Demographic Profile	Frequency	Percentage
Gender		
Male	31	24
Female	98	76
Age Group		
20 until 30 years old	75	58.1
31 until 40 years old	40	31.0
41 until 50 years old	11	8.5
51 and above	3	2.3
Level of Education		
School	36	27.9
University / College	91	70.5
No Formal Education	2	1.6
Working Sector		
Student	11	8.5
Public Servants	24	18.6
Private workers	43	33.3
Housewives	26	20.2
Self-employed	24	18.6
Retired	1	.8
Household Monthly Income		
No Income	18	14.0
RM1000- RM3000	71	55.0
RM3100 - RM5000	26	20.2
RM5100-RM8000	9	7.0
RM8100 and above	5	3.9

Reliability Results

Reliability or internal consistency is to measure Cronbach's alpha. Cronbach's alpha reliability coefficient range between 0 and 1 (Gliem & Gliem, 2021). For Cronbach statistic, perfect value in reliability is 1, 0.90-0.99 considered excellent, 0.80-0.89 as very good, 0.70-0.79 as good, 0.60-0.69 as acceptable, and 0.00-0.59 as worst. Based on table 2, the Cronbach's alpha for organ donation intention (.952), knowledge (.656), attitude (.835), moral values (.794) and perceive benefit and risk (.721) were more than .6, thus were considered acceptable and reliable.

Table 2

Reliability Results

Constructs	No. of Items	Cronbach Alpha Value
Dependent Variable		
Organ Donation Intention	5	.952
Independent Variables		
Knowledge	5	.656
Attitude	5	.835
Moral Values	5	.794
Perceive Benefits and Risk	5	.721

Normality Results

According to Brown (2021), the range of +3 and -3 are acceptable values for Skewness, and the range of +10 and -10 are acceptable values for Kurtosis. Table 3 shows the normality results of the variables. All variables of the study are found to be normal since the values of Skewness and Kurtosis are within the normality range specified by (Brown, 2021).

Table 3

Normality Results

Construct	Mean	Standard Deviation	Skewness	Kurtosis
Dependent Variable				
Organ Donation Intention	3.2677	1.10181	-.462	-.314
Independent Variables				
Knowledge	3.9846	.59330	-.420	-.245
Attitude	3.8462	.72413	-.545	1.056
Moral Values	4.2217	.51005	-.424	-.220
Perceive Benefit and Risk	3.6000	.63196	.379	-.121

Correlation Results

One method of expressing effect sizes is in terms of strength of association. The most well-known variant of this approach is the Pearson correlation coefficient, r . Using Pearson r , effect sizes are always less than 1.0, varying between -1.0 and +1.0 with 0 representing no effect and +1 or -1 being the maximum effect. Cohen (1988) provides guidelines for

interpreting the strength of a relationship (Effect Sizes). The value of more than .70 can be considered as very high, .51 (large), .36 (medium) and .14 (small) effects of relationship.

Table 4

Pearson Correlation Results

		Organ Donation Intention
Knowledge	Pearson Correlation	.212*
	Sig. (2-tailed)	.016
	N	129
Attitude	Pearson Correlation	.623**
	Sig. (2-tailed)	.000
	N	129
Moral Values	Pearson Correlation	.367**
	Sig. (2-tailed)	.000
	N	129
Perceive Benefits and Risk	Pearson Correlation	.403**
	Sig. (2-tailed)	.000
	N	129

Table 4 depicts that all independent variables (except knowledge) were positively correlated with organ donation intention. The results further indicated that knowledge was not correlated with organ donation intention as the p-value is .016 ($> .005$). However, the attitude was found to be highly correlated ($r = .623$) with organ donation intention. Meanwhile, moral value ($r = .367$) and perceive benefit and risk ($r = .403$) were found to be moderately correlated with organ donation intention.

Multiple Regression Results

Table 5 shows that the R^2 was 0.411 where 41.1% of all the independent variables influence the dependent variable which is organ donation intention. The balance of 58.9% is coming from the other independent variables that were not used in this research. The model is proven to be statistically significant because $p=0.000$ $p<0.05$. The value of knowledge was ($\beta = -.135$, $p = .092$), attitude ($\beta = .621$, $p = .000$), moral values ($\beta = -.011$, $p = .903$) and perceived benefits and risk ($\beta = .142$, $p = .120$). Therefore, from this result, it can be seen that the strongest factor that influences organ donation intention is an attitude as the Beta value was the highest among the other independent variables.

Table 5

Multiple Regression Results

Variables	Beta Values	Sig.
Knowledge	-.135	.092
Attitude	.621	.000
Moral Values	-.011	.903
Perceive Benefits and Risk	.142	.120
<hr/>		
R ²	0.411	
Adjusted R ²	0.392	
F Change	21.610	
Sig	.000	

Discussion

This study discovered no significant relationship between knowledge and organ donation intention. The finding is consistent with previous research from Australia, Korea, Niger, and Ghana, which found no link between knowledge and intention to donate organs (Marck et al., 2012; Chung et al., 2015; Ibrahim & Randhawa, 2017; Lartey et al., 2019). These disparities may be attributed not only to knowledge measurement (the substance and amount of questions), but also to several cultural and country-specific characteristics such as traditional values, religious views, compensating systems, institutional credibility, and ideals (Aijing et al., 2016). Among Malaysians, most were still not willing to donate kidneys, despite appropriate knowledge dissemination (Riyanti et al., 2014), which is possibly why there was no significant association between knowledge and willingness to donate a kidney in the current work (Islahudin et al., 2020). According to Fan et al (2022), further study is needed to confirm the association between knowledge and organ donation intention (Fan et al., 2022).

The attitude and intention to donate organs were found to be highly associated in this study. The majority of respondents have good attitudes toward organ donation, believing that it is morally appropriate and does not violate their religious beliefs. According to Wakefield et al (2010), an individual's attitude about organ donation is likely to be a key factor in determining whether or not to register for organ donation. Parisi & Katz (1986) discovered that people who had strong positive attitudes toward organ donation were the most likely to sign a donor card. Dopelt et al (2022) conducted an organ donation study in Israel and discovered that favorable views about organ donation may lead to higher organ donation in the future. Furthermore, this study's multiple regression analysis discovered that attitude is the most significant factor influencing organ donation intention. Wotring et al (2022) contend that individuals with more positive direct attitudes toward registering to donate organs were 1.5 times more likely to be registered than those with negative direct attitudes.

Moral value, perceived benefit, and risk were shown to be marginally ($r = .367$) linked with organ donation intention. Moral values can be defined as acts of altruism since an individual will engage in specific behaviors to benefit others (Dalal, 2015). Furthermore, an individual will engage in particular types of conduct if he or she believes that such action is the appropriate thing to do (Ajzen, 1991). In this study, the majority of respondents planned

to donate their organs because they believe that organ donation improves humanity, saves lives, and is a charitable gesture.

Organ donation can assist persons in need to obtain extra years of life while also improving the receivers' quality of life. Respondents also stated that they are not concerned that donating organs will disfigure a loved one's body or that donated organs will be used for medical research rather than transplant. According to the current study, the impact of self-benefit perceptions in predicting the desire to donate shows that potential donors who identify self-benefits with organ donation, such as pride or satisfaction, are more likely to commit. It is more difficult to feel content or proud of oneself for becoming an organ donor if one does not believe that becoming a donor will benefit others (Cohen & Hoffner, 2012).

Conclusion

Despite an increase in organ transplants, there is still a substantial gap between the number of donated organs and the number of persons waiting for them. Understanding why people decide to donate is the first step toward boosting organ donation rates. Hence, this study is being conducted to investigate factors linked with organ donation intention. The findings of the study found that attitude, moral values, and perceived benefit and risk were found to be associated with organ donation intention. However, knowledge is not correlated with organ donation intention. This study also found that attitude toward organ donation is the most significant factor that influences organ donation intention.

As previously established, attitude regarding organ donation is substantially associated with intention to donate. Furthermore, this variable is the most important factor influencing citizens' willingness to donate organs. As a result, policymakers should focus on improving citizens' attitudes regarding organ donation to increase the number of residents registered as organ donors. According to Pauli et al (2017), organ donation awareness efforts have contributed to a more favorable attitude toward donation. Campaign organizers must develop innovative strategies to persuade those who are opposed to organ donation, such as reducing concern about organ donation. People must obtain a better grasp of the possible audience for an organ donation campaign. Discovering what concerns people have regarding organ donation is the first step toward developing more effective organ donation campaigns. Increasing positive attitudes in the population is a crucial feature of organ donation, especially if the goal is to minimize the number of people who reject organ donation in Malaysia.

Furthermore, moral beliefs were revealed to be connected to the intention to donate organs. The religious institutions should instil in their members the importance of organ donation, as this act will benefit others. The government, through the health department, must constantly promote the benefits of organ donation to citizens through various channels, including social media. The spread of information about the benefits of organ donation should be done in a straightforward and entertaining manner so that people may grasp it.

Community awareness of the importance of organ donation pledge cards needs to be increased as a form of evidence of the patient's desire to donate organs. Hence, it is important for public health units to promote and deliver public education on organ donation, change public misconceptions, and work parallel with hospitals to increase organ donation rates. Theoretically, this study adds to the marketing and healthcare literature by demonstrating how beliefs can influence both attitudes toward organ donation and intentions to donate organs. In future studies, it is critical to use probabilistic samples for cross-context comparisons (in contrast to this study, which used a convenience sample). The use of a

probabilistic sample can aid in comparing data and drawing conclusions about cross-context discrepancies.

Acknowledgement

This research is not under a specific grant from any funding agency in the public, commercial or not for profit sectors. The authors would like to express their gratitude to the Universiti Teknologi MARA for their support in the publication of this article.

Corresponding Author

Mohd Rozaimy bin Ridzuan

Faculty of Administrative Science & Policy Studies, UiTM Pahang Branch, Raub Campus

Email: rozaimy@uitm.edu.my

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