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Drivers of, Barriers to, and Facilitators of Blood Donation among Muslim Young Adults in Malaysia
(Pemacu, Penghalang, dan Fasilitator Menderma Darah dalam Kalangan Belia Islam di Malaysia)

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ABSTRACT

This study aimed to investigate drivers of, barriers to, and facilitators of blood donation among Muslim young adults in Malaysia who include both donors and non-donors. Using convenience sampling, 300 Muslim college students in Malaysia were invited to participate in this study. To assess differences between donors and non-donors' blood-donation drivers, barriers, and facilitators, a chi-square test of independence and independent samples t-test were conducted. A total of 198 respondents participated (74.7% female, 87.9% aged between 18 and 24 years, 62.1% non-donors). Females were more likely than males to have experience with donating blood. Also, donors showed a higher mean score of drivers to donate blood, while non-donor revealed a higher mean score in terms of barriers to and facilitators of blood donation. This finding suggests that to encourage non-donors among Muslim young adults in Malaysia to donate blood, barriers that prevent them from doing so should be addressed.

Keywords: blood donation; blood donor; Muslim young adults

ABSTRAK

Kajian ini bertujuan untuk mengenalpasti pemacu, halangan kepada, dan fasilitator menderma darah dalam kalangan belia Islam di Malaysia yang termasuk kedua-dua penderma dan bukan penderma. Menggunakan pensampelan mudah, 300 pelajar kolej Islam di Malaysia telah dijemput untuk menyertai kajian ini. Untuk menilai perbezaan antara penderma dan bukan penderma darah dari segi pemacu, halangan dan fasilitator menderma darah, ujian chi-square dan ujian t-test telah dijalankan. Seramai 198 responden telah mengambil bahagian (74.7% perempuan, 87.9% berumur antara 18 dan 24 tahun, 62.1% bukan penderma). Wanita lebih berkemungkinan daripada lelaki mempunyai pengalaman menderma darah. Selain itu, penderma darah menunjukkan skor min yang lebih tinggi bagi pemacu untuk menderma darah, manakala skor min yang lebih tinggi dari segi halangan dan fasilitator menderma darah di kalangan bukan penderma darah.. Dapatan ini menunjukkan bahawa untuk menggalakkan bukan penderma darah dalam kalangan belia Islam di Malaysia menderma darah, halangan yang menghalang mereka daripada berbuat demikian harus ditangani.

Kata kunci: derma darah; penderma darah; belia Islam.

INTRODUCTION

Blood transfusion has become a standard procedure in many life-saving situations because there is no alternative source to replace human blood (Suen et al., 2020). For Muslims, donating blood is permitted if it is not harmful to the donor's health and well-being and when it is deemed helpful to others that need it (Mufti of Federal Territory, 2022). According to Dr. Yusuf al-Qardhawi, a well-known Muslim scholar, donating blood is considered a great form of charity. Thus, donating blood is encouraged among Muslims, and it is not necessary to separate the blood of Muslims and non-Muslims.

In Malaysia, blood management is under the governance of the Malaysian National Blood Centre (NBC). The NBC is responsible for collecting, processing, and supplying blood and blood products for patients in government and private hospitals. On a daily basis, 2000 bags of blood are needed throughout the country, and the NBC has frequently extended a plea for the public to donate blood, as a surge in demand has led to a depleted inventory at the NBC (Arumugam, 2022 & Ahmad, 2022). The imbalance between blood supply and demand requires continuous efforts to develop new strategies to motivate people to donate so that a sufficient, accessible, and timely blood supply is available when it is needed.

Malaysia is considered an ageing country (The Malaysia Reserve, 2023), and 63.5% of the population practices Islam (Department of Statistics Malaysia, 2020). As a Muslim majority ageing population, the demand for blood in Malaysia will increase in future due to higher risks of chronic illnesses requiring surgical intervention Fendrich & Hoffmann, 2007); hence, younger blood donors are needed, as they are generally in good health and able to donate for a long time (Yuan et al., 2011). However, the number of yearly blood donors among young people in Malaysia is low (Bernama, 2023). Previous studies have also shown that young people are less likely to donate (Marantidou et al., 2007), while higher response rates were reported among older donors (Kasraian, 2010; Volken et al., 2013 & Ou et al., 2015). Furthermore, very little research on drivers, barriers, and facilitators related to donating blood has been undertaken in the Malaysian context [Ling et al., 2018 & Chin, 2018), specifically among Muslim young adults. Therefore, this study aims to determine drivers of, barriers to, and facilitators of blood donation among Muslim young adults, including both donors and non-donors, in Malaysia. By analysing the difference between donors and non-donors' behaviour, specific campaign programs can be suggested to increase participation among Muslim young adults in blood donation.

Drivers of blood donation

Numerous studies have been conducted on what drives people to donate blood. Understanding what motivates donors to donate blood will aid in recruiting more blood donors (Karacan et al., 2013). According to Alam and El Din Masalmeh (Alam & El Din, 2004), knowledge is an important factor to measure for blood donation. When people are informed about the facts, myths, and fears related to blood donation, they will be more motivated to donate blood. In addition to knowledge, Mohammed and Essel (2018) found that donors are motivated to donate when someone they know is in need and they feel a desire to help other people in need of blood. Ibrahim et al. (2021) and Sham et al. (2019) also obtained similar findings, whereby the most common motivator reported by blood donors is the desire to help others and to improve the health of people they may never meet. Other motivators for donating blood include being pressured by society, subjective norms (being influenced by friends), reciprocity (availability for self, family, or friends), incentives, and curiosity (Ibrahim et al., 2021).

Barriers to blood donation

To motivate more people to donate blood, it is also critical to understand the obstacles that stand in the way of their doing so. Previous studies revealed that a lack of understanding of the requirements for blood donation and having never been asked to donate blood are the most common barriers among non-donors (Ibrahim et al., 2021). These results corroborated research by Lownik et al. (2012), who revealed that misinformation about blood donation discouraged people from donating. In another study, Wilkinson and Gupta (2016) found that 33.9% of non-donors from their study feared transfusion needles and did not want to experience any pain. Similarly, Sham et al. (2019) stated that fear of blood and needles may have prevented adults in their study from becoming blood donors. Other studies confirmed that participants were discouraged from donating blood because they thought it was painful (Bednall & Bove 2011; Finck et al., 2016).

Researchers have also investigated barriers to donating blood among blood donors. Mohammed and Essel (2018) reported that poor attitude of staff at the donor clinic was a major barrier to donating. Other donors stated that unpleasant symptoms after donating blood, such as dizziness and light-headedness (Sham

et al., 2019), deterred them from donating blood. Finck et al. (2016) showed that whether a donor's experience of donating blood was pleasant or otherwise also significantly impacted the return behaviour of the blood donor. The authors found that donors who did not experience any unfavourable reactions had a higher return rate for a subsequent donation within a year compared to those who did.

Facilitators of blood donation

Past studies have also analysed the role of facilitators in blood donation. The potential facilitators could be either experienced or self-reported and could refer to factors either negatively or positively associated with blood donation behaviour, blood donor status, or intention to donate or become a blood donor (Klinkenberg et al, 2018). Convenience of the donation centres and availability of mobile blood drives have been identified as facilitators of blood donation. Nhung et al. (2020) found that convenient locations and flexible donation hours facilitated the decision to donate blood, while Masser et al. (2017) revealed that donors were more willing to return for future donations if the donation process was convenient and efficient. Another study identified a comfortable donation environment as one of the top motivating factors for people to donate blood (Dubey et al., 2014). Donors who experience an easy donation process while donating blood are willing to donate again. Moreover, providing information about the donation process and the impact of blood donation could also facilitate donation (Ferguson, 1996), while offering incentives to increase donation rates among first-time donors (Guo et al., 2019).

METHODS

For this study, using convenience sampling, 300 Muslim college students between 18 and 30 years of age enrolled in a business programme at Negeri Sembilan and Kelantan, Malaysia were invited to complete a survey questionnaire. A total of 198 completed survey questionnaires were received. The survey questionnaire was divided into two main sections. The first section contained general questions on respondents' demographic information (such as gender, age, and background) and blood donation experience, including previous experience with blood donation and blood type. In section two, respondents were asked about their views and opinions on blood-donation drivers, barriers, and facilitators. All items were adopted from previous studies (Beerli & Martin, 2015; Alanzi & Alsaeed, 2019). Respondents were asked to answer questions on a five-point Likert scale ranging from "1" (strongly disagree) to "5" (strongly agree).

RESULTS AND FINDINGS

Descriptive Analysis

Table 1 shows the respondents' profile and blood donation experience. In total, 148 respondents (74.7%) were female, and 50 respondents (25.3%) were male. Regarding age, more than half (87.9%) were between 18 and 24 years old, and the rest (12.1%) were between 25 and 30 years old. With regard to the respondents' background, 40.6% were from Eastern Malaysia, followed by Southern Malaysia, Central Malaysia (20.3%), and Sabah and Sarawak (1.0%). Of the 198 respondents, 75 (37.9%) have donated blood, while 123 (62.1%) have not donated blood.

Chi-Square Test of Independence

Chi-square statistics were used to examine the association between gender (male or female) and experience with donating blood (yes or no). Based on Table 2 and Table 3, there is a significant association between gender and experience with donating blood, as women are more likely than men to experience with blood donation ($x^2 = 4.101$, $df = 1$, $p<0.05$).

Drivers of blood donation

As shown in Table 4, an independent samples t-test was conducted to compare the drivers of blood donation between donors and non-donors. Among the drivers, there was a significant difference ($t(192) = 5.499$, $p<0.001$) between the groups in the scores for "seeing or hearing an advertising campaign," with the mean score for donors (M = 4.3514 SD = 0.76628) being higher than that for non-donors (M =3.6917, SD = 0.83812). A significant difference ($t(191) = 4.7$, $p<0.001$) was also found in the scores for "human solidarity," with the mean score for donors (M = 4.2877, SD = 0.79021) being higher than that for non-donors (M = 3.75, SD = 0.7587). Similarly, a significant difference ($t(194) = 4.235$, $p<0.001$) was found in the scores for "personal satisfaction of helping others," with the mean score for donors (M = 4.48, SD = 0.77738) being higher than that for non-donors (M = 3.9752, SD = 0.83129). Other items measuring drivers to donate blood did not show significant results.

TABLE 1: Demographic profiles and blood donation experience

Description		(n=198)	
		Frequency	(%)
Demographic Profile			
Gender	Male	50	25.3
	Female	148	74.7
Age	18 - 24	174	87.9
	25 - 30	24	12.1
Location	North (Perlis, Penang, Kedah, Perak)	29	14.7
	East (Pahang, Kelantan, Terengganu)	80	40.6
	Central (Kuala Lumpur, Selangor, Putrajaya)	40	20.3
	South (Negeri Sembilan, Melaka, Johor)	46	23.4
	Sabah and Sarawak	2	1.0
Blood Donation Experience			
Experience in donating blood	Yes (Donor)	75	37.9
	No (Non-Donor)	123	62.1
Blood Type	Type A	26	13.3
	Type B	30	15.4
	Type AB	15	7.7
	Type O	59	30.3
	Not sure	65	33.3

TABLE 2: Experience in blood donation based on gender

		Gender		Total
		Female	Male	
Do you have an experience donating blood?	Yes	82.7% (62)	17.30% (13)	100% (75)
	No	69.9% (86)	30.10% (37)	100% (123)
Total		74.70% (148)	25.30% (50)	100.00% (198)

TABLE 3: Chi-Square test of experience in blood donation

	Value	*df*	Asymptotic Significance (2-sided)
Pearson Chi-Square	4.011[a]	1	0.045
Likelihood Ratio	4.165	1	0.041
Fisher's Exact Test			
Linear-by-Linear Association	3.991	1	0.046
N of Valid Cases	198		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 18.94.

TABLE 4: Independent samples t-test for drivers to donate blood

Driver items	Group	Mean	SD	F	Sig.	t	df	Sig. (2-tailed)
A relative or a friend need blood	Donor	3.7973	1.1101	9.762	0.002	-1.069	193	0.286
	Non-Donor	3.9504	0.87418			-1.01	127.697	0.314
Urgent call for blood	Donor	3.8514	1.02946	5.939	0.016	0.001	193	0.999
	Non-Donor	3.8512	0.86276			0.001	134.127	0.999
Seeing or hearing an advertising campaign	Donor	4.3514	0.76628	0.541	0.463	5.499	192	0
	Non-Donor	3.6917	0.83812			5.618	165.262	0
Human solidarity	Donor	4.2877	0.79021	0.496	0.482	4.7	191	0
	Non-Donor	3.75	0.7587			4.653	147.358	0
Personal satisfaction of helping others	Donor	4.48	0.77738	0.292	0.589	4.235	194	0
	Non-Donor	3.9752	0.83129			4.302	164.969	0
Beneficial to my health	Donor	4.027	0.84356	0.027	0.869	1.413	193	0.159
	Non-Donor	3.8595	0.77788			1.386	144.84	0.168
My blood type is rare and thus always necessary	Donor	3.3733	0.98328	0.294	0.588	0.666	192	0.506
	Non-Donor	3.2773	0.97359			0.665	156.281	0.507

Barriers to blood donation

An independent samples t-test was conducted to compare the barriers to blood donation between donors and non-donors. The results shown in Table 5 indicate that there was a significant difference ($t(194) = -6.022$, $p<0.001$) in the scores for "fear of needles," with the mean score for non-donors (M = 3.0738, SD = 1.26731) being higher than that for donors (M = 1.9865, SD = 1.15264). A significant difference ($t(193) = -5.283$, $p<0.001$) was also found in the scores for "fear of infectious disease transmission," with the mean score for non-donors (M = 3.0246, SD = 0.9997) being higher than that for donors (M = 2.2329, SD = 1.03442). A significant difference ($t(192) = -5.168$, $p<0.001$) was also found in the scores for "sight of blood is unpleasant," with the mean score for non-donors (M = 2.9754, SD = 1.05598) being higher than that for donors (M = 2.1528, SD = 1.09621). The scores for "fear of being harmful to one's health" showed a significant difference ($t(193) = -4.104$, $p<0.001$), with the mean score for donors (M = 2.2603, SD = 1.06754) being lower than that for non-donor (M = 2.8852, SD = 1.00574). Similarly, the scores for "fear of feeling dizzy or sick" showed a significant difference ($t(195) = -4.269$, $p<0.001$), with the mean score for donors (M = 2.3243, SD = 1.11168) being lower than that for non-donors (M = 3.0081, SD = 3.0081). For other barrier items, a significant difference ($t(193) = -3.781$, $p<0.001$) was also found for "going to health centres is unpleasant," with the mean score for donors (M = 2.2466, SD = 1.06433) being lower than that for non-donors (M = 2.8361, SD = 1.04732). Finally, the scores for "they give nothing in return" showed a significant difference ($t(192) = -3.782$, $p<0.001$), with the mean score for donors (M = 1.8356, SD = 0.94301) being lower than that for non-donors (M = 2.3884, SD = 1.01137).

TABLE 5: Independent samples t-test for barriers to donate blood

Driver items	Group	Mean	SD	F	Sig.	t	df	Sig. (2-tailed)
Fear of needles	Donor	1.9865	1.15264	1.229	0.269	-6.022	194	0
	Non-Donor	3.0738	1.26731			-6.164	165.591	0
Fear of infectious disease transmission	Donor	2.2329	1.03442	1.582	0.21	-5.283	193	0
	Non-Donor	3.0246	0.9997			-5.238	147.544	0
The sight of blood is unpleasant	Donor	2.1528	1.09621	0.663	0.416	-5.168	192	0
	Non-Donor	2.9754	1.05598			-5.118	144.61	0
Fear of being harmful to one's health	Donor	2.2603	1.06754	1.15	0.285	-4.104	193	0
	Non-Donor	2.8852	1.00574			-4.042	144.528	0
Fear of feeling dizzy or sick	Donor	2.3243	1.11168	0.967	0.327	-4.269	195	0
	Non-Donor	3.0081	1.07502			-4.233	149.863	0
Going to health centres is unpleasant	Donor	2.2466	1.06433	0.375	0.541	-3.781	193	0
	Non-Donor	2.8361	1.04732			-3.765	149.699	0
They give nothing in return	Donor	1.8356	0.94301	1.307	0.254	-3.782	192	0
	Non-Donor	2.3884	1.01137			-3.848	160.287	0

Facilitators of blood donation

Table 6 shows the results of an independent samples t-test that compares the facilitators of blood donation between donors and non-donors. There was a significant difference *(t*(192) = -2.712, p<0.001) in the scores for "being paid a tribute in public events for being a frequent donor," with the mean score for non-donors (M = 3.3083 SD = 0.94198) being higher than that for donors (M = 2.9054 SD = 1.10005). There was also a significant difference (*t*(192) = -2.169, p<0.001) between donors and non-donors in the scores for "bumper sticker which shows I am a blood donor," with the mean score for non-donors (M = 3.3083, SD = 0.94198) being higher than that for donors (M = 3.000, SD = 1.05985). Finally, the result of the analysis indicates that there was a significant difference *(t*(192) = -3.231, p<0.001) between donors and non-donors in the scores for "celebrities that encourage donation," with the mean score for non-donors (M=3.1417, SD =0.91941) being higher than that for donors (M = 2.6757, SD = 1.06125).

TABLE 6: Independent samples t-test for facilitators to donate blood

Driver items	Group	Mean	SD	F	Sig.	t	df	Sig. (2-tailed)
Blood drives near my house	Donor	3.3973	0.95364	2.207	0.139	-0.213	191	0.831
	Non-Donor	3.425	0.82668			-0.206	135.714	0.837
Promoters that encourage donation	Donor	3.6216	0.85533	4.907	0.028	0.924	192	0.357
	Non-Donor	3.5167	0.70987			0.884	133.42	0.378
Social recognition through medal or certificates such as being a frequent donor	Donor	3.5135	0.89509	0.522	0.471	0.041	192	0.968
	Non-Donor	3.5083	0.84013			0.04	147.209	0.968
Getting a full blood count in return	Donor	3.2297	0.88437	0.046	0.831	-0.374	191	0.709
	Non-Donor	3.2773	0.84296			-0.37	149.304	0.712
Getting medical advice on my health	Donor	3.7973	0.84367	1.533	0.217	-0.441	192	0.659
	Non-Donor	3.85	0.78484			-0.434	146.168	0.665
Being paid a tribute in public events for being a frequent donor	Donor	2.9054	1.10005	0.259	0.611	-2.712	192	0.007
	Non-Donor	3.3083	0.94198			-2.615	136.787	0.01
Bumper sticker which show I am a blood donor	Donor	3	1.05985	0.511	0.475	-2.169	192	0.031
	Non-Donor	3.3083	0.89627			-2.085	135.426	0.039
Celebrities that encourage donation	Donor	2.6757	1.06125	3.771	0.054	-3.231	192	0.001
	Non-Donor	3.1417	0.91941			-3.123	138.069	0.002

DISCUSSION AND IMPLICATIONS

To understand the drivers of, barriers to, and facilitators of blood donation among donors and non-donors, this study distributed survey questionnaires among Muslim young adults in Malaysia. Less than half (37.9%) of respondents reported they had donated blood. This indicates that blood donation among Muslim young adults is relatively low. Women are more likely than men to have experience with donating blood. From the list of drivers of blood donation, this study revealed that donors are more likely to donate after seeing or hearing an advertising campaign. Furthermore, donors also are driven to donate blood due to a high level of human solidarity and personal satisfaction from helping others. This finding is in line with other studies on donors' motivation to donate blood, which also showed that the desire to help someone was the main motivating factor in blood donation (Lownik et al., 2012). As such, to encourage people to donate blood, regular blood donation campaigns should be conducted to motivate people to donate blood.

In this study, non-donors showed higher mean scores in terms of barriers stopping them from donating blood. Consistent with the literature (Lownik et al, 2012; Ngoma et al., 2013; Sham et al., 2019), fear seems to be the main barrier to the decision to donate blood among non-donors. Fear is also by far the most common deterrent of blood donation in the developing world (Lownik et al., 2012), including Malaysia, as found in this study. Non-donors reported their fears of needles, infectious disease, and feeling dizzy or sick. Accordingly, a continuous campaign on the aspects of blood donation will help correct some misconceptions about blood donation to help overcome people's fear of donating blood.

Despite the barriers that non-donors have indicated hinder them from donating blood, offering incentives may have a positive impact in facilitating their decision-making regarding blood donation. In comparison to donors, non-donors mentioned that being paid a tribute in public events for being a frequent donor or given a bumper sticker identifying them as a blood donor would facilitate their decision to donate blood. Also, the findings of this study show that the use of celebrities to encourage blood donation could facilitate blood donation among non-donors. Therefore, public figures such as celebrities can be engaged as ambassadors for voluntary blood donation.

This study has some limitations that should be taken into account. This study used a convenience sample to investigate drivers of, barriers to, and facilitators of blood donation among Muslim young adults. While the methodology used supports the study's objectives, the present study is not necessarily generalisable to all Muslim young adults in Malaysia. Future research should be designed with a larger sample size to get a better understanding of Muslim young adults' blood donation behaviour in Malaysia.

CONCLUSION

As a conclusion, the aim of this study is to investigate drivers of, barriers to, and facilitators of blood donation among Muslim young adults in Malaysia who include both donors and non-donors. Using convenience sampling, 300 Muslim college students in Malaysia were invited to participate in this study. To assess differences between donors and non-donors' blood-donation drivers, barriers, and facilitators, a chi-square test of independence and independent samples t-test were conducted. The results of analyses showed that females were more likely than males to have experience with donating blood. Also, donors showed a higher mean score of drivers to donate blood, while non-donor revealed a higher mean score in terms of barriers to and facilitators of blood donation.

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