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# **Original Research Article**

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# Knowledge, attitude and practice towards blood donation and its associated factors among university students in Shah Alam, Malaysia

# Maged Elnajeh, Hasanain Faisal Ghazi\*, Mohammed A. Abdalqader, Mohammed Faez Baobaid

Department of Community Medicine, International Medical School, Management and Science University, Selangor, Malaysia

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# \*Correspondence:

Dr. Hasanain Faisal Ghazi, E-mail: hasanain@msu.edu.my

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## **ABSTRACT**

**Background:** The aim of this research is to find out the relationship between knowledge, attitude, practice towards blood donation and its association with socio-demographic factors, field of study, and blood groups of the students.

**Methods:** A cross-section study was conducted among 679 university students using self-administered questionnaire. The questionnaires consist of 4 parts mainly socio-demographic data, knowledge towards blood donation (10 questions), attitude towards blood donation (6 questions) and practice towards blood donation (1 question).

**Results:** Majority of respondents have good knowledge (97.1%), good attitude (88.8%); however majority of them have poor practice (70.3%). There was an association between Knowledge, and gender (p=0.001), attitude and field of study, blood group (p<0.001, 0.001 respectively). By using regression analysis, the only factor associated with Knowledge was gender with adjusted OR of 5.2.

**Conclusions:** Most of the students have good knowledge and attitude but they have poor practice towards blood donation. More promotion and education are needed to encourage students for more blood donation in the future.

Keywords: Knowledge, Attitude, Practice, Blood donation, University students, Malaysia

## INTRODUCTION

Generally, a healthy human body contains an average of 4.7 liters of blood. During a blood donation process, one pint of blood is being drawn to fill one blood bag.<sup>1</sup> According to World Health Organization, blood donation rate in a high-income country is 33.1 donations per 1000 people, 11.7 donations per 1000 people in middle-income countries and a low of 4.6 donations per 1000 people in low-income countries.<sup>2</sup>

In Malaysia, an increasing demand for blood in almost all medical centres throughout the country also indicated that, there is also the requirement for more blood donors. In year 2010, the Malaysian National Blood Centre has targeted that, more than 10% of Malaysian will involve in blood donation, but, unfortunately, only 3% were reported to do so. Although the blood donation programs are organized everywhere, throughout the country, but still, minimal participation is recorded. This has created a need to understand the donors to recruit as well as retain the current donors who are willing to donate. Therefore, an effort to render more volunteer donors to get a large pool of blood donors is critical in maintaining the blood supply over time.<sup>3</sup>

A study was done in Ambo town among Ambo university students stated that proportion of students having good

knowledge on blood donation was 40.4% while 59.6% had poor knowledge. The positive attitude of the respondents towards blood donation were 47.4% and more than half, 52.3% of the study participants had unfavourable attitude towards voluntary blood donation. The practiced of voluntary blood donation were 23.6% while 76.4% had never practiced blood donation yet. 4

Therefore, the aim of this research is to find out the relationship between knowledge, attitude, practice towards blood donation and its association with sociodemographic factors, field of study, and blood groups of the students.

#### **METHODS**

A cross-sectional study was conducted among 679 Management and Science University students in Shah Alam during February 2017. The inclusion criteria were both undergraduate and postgraduate students while exclusion criteria were University staff and foreign students. Subject was selected using non -probability convenience sampling. A self-administered questionnaire was used to collect the data from the respondents. The questionnaires consist of 4 parts mainly sociodemographic data, knowledge towards blood donation (10 questions), and attitude towards blood donation (6

questions) and practice towards blood donation (1 question).

For each parts the answer was either yes or no, 1 score was given to correctly answered questions and 0 score to wrongly answered questions. For knowledge, a score of 6-10 indicates good knowledge. For attitude a score of 4-6 indicates positive attitude. For practice 'yes' answer indicates good practice towards blood donation.

Approval by the Medical Research Ethics Committee of Management and Science University was obtained prior to the study. Verbal and written consent was obtained from the subjects.

Data was analysed using SPSS version 22.0.

#### **RESULTS**

The mean age of the respondents was 21.8±2.04 and the average monthly family income was RM 4721±3068.9. The majority were female 497 (73.2%), Malay 441 (64.9%), urban living 581 (85.6%), Non-medical field of study 422 (62.2%). The most common blood group type among the respondents was type O 249 (38.4%) followed by type B 172 (26.5%) and type A 154 (23.7%) as shown in Table 1.

Variables		Frequency (n)	Percentage (%)
Gender	Male	182	26.8
	Female	497	73.2
Race	Malay	441	64.9
	Chinese	33	4.9
	Indian	184	27.1
	Others	21	3.1
Housing area	Urban	581	85.6
	Rural	98	14.4
Field of study	Medical	190	28.0
	Paramedical	67	9.9
	Non-medical	422	62.1
Blood group	A	154	23.7
	В	172	26.5
	AB	74	11.4
	0	249	38.4
		Mean	SD
	Age (in years)	21.8	2.047
	Household income (in Malaysian Ringgit)	RM 4721.13	3068.97

Table 1: Socio-demographic characteristics of the respondents.

Table 2: Prevalence of knowledge, attitude and practice towards blood donation among university students.

Variable		Frequency (n)	Percentage (%)
Knowledge	Good	659	97.1
Knowledge	Poor	20	2.9
Attitude	Good	603	88.8
Attitude	Poor	76	11.2
Practice	Good	202	29.7
Practice	Poor	477	70.3

Table 3: Association between field of study, gender, blood group and knowledge level.

Variables		Poor knowledge N (%)	Good knowledge (%)	P value	
Field of study	Medical	7 (3.7)	183 (96.3)		
	Para-medical	2 (3.0)	65 (97.0)	0.691 <sup>a</sup>	
	Non-medical	11 (2.6)	411 (97.4)		
Gender	Male	12 (6.6)	170 (93.4)	$0.001^{b}$	
	Female	8 (1.6)	489 (98.4)		
Blood group	A	7 (4.5)	147 (95.5)	0.451 <sup>a</sup>	
	В	3 (1.7)	169 (98.3)		
	AB	3 (4.1)	71 (95.5)		
	0	7 (3.1)	242 (96.9)		

<sup>&</sup>lt;sup>a</sup>Fisher exact test was performed; <sup>b</sup>Chi square test was performed.

Table 4: Association between field of study, gender, blood group and attitude level.

Variables		Poor attitude N (%)	Good attitude N (%)	P value	
Field of study	Medical	8 (4.2)	182 (95.8)		
	Para-medical	5 (7.5)	62 (92.5)	<0.001*	
	Non-medical	63 (14.9)	359 (85.1)		
Gender	Male	20 (11.0)	162 (89.0)	0.919	
	Female	56 (11.3)	441 (88.7)		
Blood group	A	18 (11.7)	136 (88.3)	0.001*	
	В	12 (7.0)	160 (93.0)		
	AB	18 (24.3)	56 (75.7)		
	0	25 (10.0)	224 (90.0)		

<sup>\*</sup> Level of significance at p < 0.05

Table 5: Factors related to knowledge using regression analysis.

	В	Wald	P	Adj. Or	96% CI
Gender	1.649	0.486	0.001	5.204	2.006-13.502
Age	0.052	0.198	0.070	1.824	0.952-3.497
Field of Study	0.042	0.026	0.872	1.043	0.626-1.736
Blood group	0.059	0.096	0.756	1.061	0.730-1.543
<b>Donation history</b>	0.981	2.802	0.094	2.668	0.846-8.418

It was found that the prevalence of students with good knowledge is 97.1% good attitude is 88.8% and good practice is 29.7% as shown in Table 2.

There was an association between Knowledge, and gender (p=0.001) as shown in Table 3, attitude and field of study, blood group (p<0.001, 0.001 respectively) Table 4. By using regression analysis, the only factor associated with Knowledge was gender with adjusted OR of 5.2 as shown in Table 5.

## **DISCUSSION**

The main finding of our study that majority of respondents have good knowledge (97.1%), good attitude (88.8%), however majority of them have poor practice (70.3%). This is in contrast with previous study done in Ambo University which stated that proportion of students having good knowledge was less than students having

poor knowledge which was 40.4% had good knowledge compared to 59.6% had poor knowledge.

For attitude towards blood donation, 88.8% students have good attitude, this is also in contrast with previous study done in Ambo University which found that 47.4% of students had positive attitude towards blood donation. For practice towards blood donation, only 29.7% of students have good practice towards blood donation and this finding is supported by previous study done in Ambo University which showed that only 23.6% of students had practiced blood donation.4

Both research conducted in Malaysia and Ambo University revealed that the female gender has good knowledge on blood donation compared to male gender both study shows statistically significance between knowledge towards blood donation and gender.4

For the relationship between attitude on blood donation and gender, was not significant whereas the study by undergraduate medical students in Karachi is significant. there is significance between practice of blood donation and male gender which is similar to Karachi study where they suggested that female face more obstacles in the process of donating blood while male is physically strong. 5

The study conducted among 679 respondents, of which non-medical was 489 (72%) and medical was 190 (28%). Non-medical respondents were higher than medical respondents, this resulted in no significant association between knowledge on blood donation and field of study comparing with study conducted in Bhubaneswar city showed that there is significant association between knowledge regarding blood donation.<sup>6</sup>

There was no significant association between practice on blood donation and blood group and this finding was supported by studies done in Uganda and India. <sup>7,8</sup>

#### **CONCLUSION**

Most of the students have good knowledge and attitude but they have poor practice towards blood donation. More promotion and education are needed to encourage students for more blood donation in the future.

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Ethical approval: The study was approved by the

Institutional Ethics Committee

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