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A Cross-Sectional Study on Knowledge, Perception and Practice of Blood Donation Among Medical and Non-Medical Students of University of Cyberjaya

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ABSTRACT

Objectives: To assess and analyze the differences in knowledge, perception, and practices regarding blood donation between medical and non-medical students.
Materials and methods: A cross-sectional study was conducted with 384 participants, including 229 medical and 155 non-medical students, selected through non- probability convenience sampling. Data were collected via a self-administered online questionnaire distributed through Google Forms. Responses were analyzed using the Jeffreys Amazing Statistics Programme (JASP) to evaluate differences in knowledge, perception, and practices related to blood donation between the two groups.
Results: The study identified a notable knowledge disparity, with 66.8% of medical students demonstrating a higher factual understanding of blood donation compared to 34.8% of non-medical students. Regarding the perception of blood donation, both groups of students generally exhibited positive views, with medical students showing slightly better performance in certain aspects. However, no significant association was found between their perception and the actual practice of blood donation. On the practice of blood donation, approximately 33.6% of medical students and 20% of non-medical students had engaged in blood donation, predominantly on a voluntary basis. Notably, medical students demonstrated a higher propensity for blood donation compared to their non-medical counterparts. A significant association was observed between the course of study and donation practices ($p<0.05$).
Conclusion: This study underscores the critical need for targeted educational interventions to improve knowledge and address misconceptions about blood donation. Collaborative initiatives are vital for fostering a culture of voluntary blood donation, thereby ensuring a sustainable blood supply to meet healthcare demands.

Keywords: Knowledge, perception, practice, blood donation, medical students, non-medical students

INTRODUCTION

Blood is the essence of life, coursing through our veins, carrying vital nutrients and oxygen to every corner of our bodies. Composing a complex mixture of cells, proteins, and other substances, blood plays a

crucial role in maintaining our health and sustaining bodily functions (Lippi et al., 2020). At its core, blood consists of red blood cells, white blood cells, platelets, and plasma, each with its own unique functions contributing to our overall well-being. While the importance of blood is universally recognized, the availability of safe blood for transfusion remains a challenge in many parts of the world. Blood donation, a selfless act undertaken by millions globally, serves as the lifeline for countless individuals in need of medical intervention. Despite significant strides in blood donation practices and awareness campaigns, shortages persist, highlighting the ongoing need for increased participation and support. According to the World Health Organization (WHO), an estimated 118.4 million blood donations are collected worldwide every year, with about 40% of these donations originating from high-income countries, underscoring the global discrepancy in access to safe blood (WHO, 2019). According to data from the National Blood Centre of Malaysia, approximately 1.3 million units of blood are collected each year, with most donations coming from voluntary, non-remunerated donors (National Blood Centre Malaysia, 2023). Despite these efforts, challenges such as seasonal shortages and disparities in donation rates among different demographic groups persist.

Research on the knowledge, perception, and practice of blood donation in Malaysia reveals a complex landscape shaped by cultural, social, and institutional factors. Studies have indicated varying levels of understanding among Malaysians regarding the importance of blood donation and its impact on healthcare provision (Noraziani et al., 2018). While many individuals recognize the significance of donating blood, there are misconceptions and fears surrounding the process, including concerns about pain, health risks, and religious beliefs (Yazid et al., 2019). Perceptions of blood donation are influenced by cultural norms and beliefs, with attitudes towards altruistic giving playing a significant role (Hassan et al., 2017). Positive attitudes towards blood donation are often associated with a sense of social responsibility and community solidarity, while negative perceptions may stem from misconceptions or lack of awareness.

The prevailing focus of research endeavours in Malaysia predominantly centres on the examination of civilians' knowledge, practices, and perceptions regarding blood donation. Regrettably, scant data are available concerning the engagement of students, who constitute the second-largest demographic group in blood donation activities within Malaysia. This study delves deeply into students' perceptions, knowledge, and practices, while also investigating potential disparities between medical and non-medical student cohorts due to their differing educational backgrounds. The University of Cyberjaya (UoC) served as an optimal setting for this study, given its diverse student body representing various academic disciplines. This diversity enhances the robustness of findings obtained from this study.

MATERIALS & METHODS

Study Design and Study Population

This cross- sectional study included 384 students between the age 18 – 60 years old from University of Cyberjaya. The inclusion criteria were Postgraduate, Undergraduate, Diploma & Foundation students at University of Cyberjaya, students between the age of 18 to 60, and students who can understand English. Whereas the exclusion criteria were staff of University of Cyberjaya, students below 18 years old and above 60 years old, inability or unwillingness to participate in the study and students who cannot understand English. If the student failed to complete the questionnaire, it was considered unresponsive data. This cross-sectional study was conducted at University of Cyberjaya from December 2023 – May 2024.

Sampling Method and Sample Size

Participants were selected using non-probability convenience sampling. The sample size was determined by the prevalence of the risk factors under study, using a single proportion formula.

$n = (\frac{z}{m})^2 \times (p)(1 - p) + 10\%$ non-respondent

whereby,

n = sample size

Z score, z = 1.96 (95% CI)

m = margin of error

p = prevalence

Based on a previous similar study conducted among undergraduates at a health campus in Malaysia, the largest sample size for the prevalence study, with a proportion chosen of 0.50 and a margin of error of 5%, was *n*=384.

Data collection, research tool and parameters of interest.

A self-reported questionnaire was used to collect data from respondents who met the inclusion criteria and were eligible to answer the online questionnaire. Data was collected through pre-tested, structured self-administered questionnaires.

First section: This section contained questions to obtain sociodemographic data.

Second section: This section comprises 20 questions designed to assess participants' knowledge of blood donation. Each correct response will receive a score of "1," while incorrect responses will score "0." Participants achieving a score of 70% or higher on the knowledge assessment questions will be categorized as demonstrating adequate knowledge in the study.

Third section: This section included six questions to understand how people perceive blood donation. Respondents were categorized as having either a positive or negative view for each question, without assigning scores to their answers.

Fourth section: This section included inquiries to evaluate respondents' history of previous blood donations and their current practices regarding blood donation. Respondents were categorized as either demonstrating good practice or poor practice based on their reported history of blood donation activities.

STATISTICAL ANALYSIS

The data obtained was analyzed using Jeffreys's Amazing Statistics Program (JASP) version 0.16.3.0 data analysis software. Association of knowledge, perception, prevalence and course of study with practice of blood donation was tested using Chi-Square test, $p<0.05$ was statistically significant.

RESULTS

Table 1: Sociodemographic data of respondents

Variable		Frequency (n)	Percentage (%)	p value
Gender	Female	243	63.3	0.028
	Male	141	36.7	
Age	18-24	355	92.4	<0.001
	25-31	28	7.3	
	32-38	1	0.3	
	39-45	0	0	
	46-52	0	0	
	53-60	0	0	
Nationality	Malaysian	330	86	0.026
	Non-Malaysian	54	14	
Race	Malay	174	45.3	0.032
	Chinese	46	12.0	
	Indian	118	30.7	
	Others	46	12.0	
Field of Study	Medical	229	59.6	0.004
	Non – Medical	155	40.4	

Blood Groups	A	79	20.6	0.109
	B	104	27.1	
	AB	52	13.5	
	O	149	38.8	

A total of 229 (59.6%) students from medical backgrounds and 155 (40.4%) from non-medical backgrounds took part in the study. Most participants, 330 (86%), were Malaysian, while the remaining 14% were non-Malaysian. Females constituted a higher percentage, with 243 (63.3%) respondents, compared to males, who accounted for 141 (36.7%). A significant portion of the participants identified as Malay, comprising 174 (45.3%), and the most common blood type was O, with 149 (38.8%) individuals. There were notable associations found between gender, age, nationality, race, and field of study concerning blood donation practices, although these associations might be influenced by the larger number of respondents in certain categories. Further details of the sociodemographic characteristics of the participants can be found in Table 1.

Table 2: Knowledge towards blood donation of medical and non-medical students of UoC.

Items	Responses	Medical Students			Non - Medical Students		
		Frequency n (%)	Correct Response n (%)	Incorrect Response n (%)	Frequency n (%)	Correct Response n (%)	Incorrect Response n (%)
1. Is blood donation harmful to the donor?	Yes	9 (3.9)	216 (94.3)	13 (5.7)	17 (7.4)	126 (81.3)	29 (18.7)
	No	216 (94.3)			126 (81.3)		
	No idea	4 (1.7)			12 (7.7)		
2. Where is the place of blood donation?	Hospital	69 (30.1)	195 (85.2)	34 (14.8)	53 (34.2)	118 (76.1)	37 (23.9)
	Health centre	26 (11.4)			24 (15.5)		
	Donation centre	126 (55.0)			65 (41.9)		
	Other	8 (3.5)			13 (8.4)		
3. What's the goal of blood donation?	Saving relatives' life	11 (4.8)	217 (94.8)	12 (5.2)	11 (7.1)	142 (91.6)	13 (8.4)
	Saving someone's life	217 (94.8)			142 (91.6)		
	Getting insurance	1 (0.4)			2 (1.3)		
4. What's the minimum age to donate blood?	<18 years	8 (3.5)	120 (52.4)	109 (47.6)	11 (7.1)	71 (45.8)	84 (54.2)
	18 years	120 (52.4)			71 (45.8)		
	<18 years	101 (44.1)			73 (47.1)		
5. What's the maximum age to donate blood?	<65 years	108 (47.2)	112 (48.9)	117 (51.1)	79 (51.0)	67 (43.2)	88 (56.8)
	65 years	112 (48.9)			67 (43.2)		
	>65 years	9 (3.9)			9 (5.8)		
6. What is the minimum weight for blood donation?	<45kg	6 (2.6)	125 (54.6)	104 (45.4)	18 (11.6)	77 (49.7)	78 (50.3)
	45kg	125 (54.6)			77 (49.7)		
	>45kg	98 (42.8)			60 (38.7)		
7. What is the maximum volume of blood that is drawn during blood donation?	250ml	45 (19.7)	103 (45)	126 (55)	30 (19.4)	27 (17.4)	108 (69.7)
	350ml	81 (35.4)			78 (50.3)		
	450ml	103 (45)			27 (17.4)		
8. What is the minimum interval between two blood donations?	Every 3 month	113 (49.3)	106 (46.3)	123 (53.7)	45 (29.0)	76 (49)	79 (51)
	Every 6 month	106 (46.3)			76 (49.0)		
	Once a year	10 (4.4)			34 (21.9)		
9. Do you know about blood groups?	Yes	216 (94.3)	216 (94.3)	13 (5.7)	120 (77.4)	120 (77.4)	35 (22.6)
	No	13 (5.7)			35 (22.6)		
10. What is the most common	A	33 (14.4)	160 (69.9)	69 (30.1)	23 (14.8)	76 (49)	79 (51)
	B	13 (5.7)			23 (14.8)		

blood group type?	AB	23 (10)			33 (21.3)		
	O	160 (69.9)			76 (49.0)		
11. Can pregnant women donate blood?	Yes	21 (9.2)	154 (67.2)	75 (32.8)	12 (7.7)	105 (67.7)	50 (32.3)
	No	154 (67.2)			105 (67.7)		
	No idea	54 (23.6)			38 (24.5)		
12. Can women donate blood during menstruation?	Yes	60 (26.2)	147 (64.2)	82 (35.8)	30 (19.3)	77 (49.7)	78 (50.3)
	No	147 (64.2)			77 (49.7)		
	No idea	22 (9.6)			48 (31.0)		
13. Can cigarette smokers donate blood?	Yes	94 (41)	108 (47.2)	121 (52.8)	33 (21.3)	84 (54.2)	71 (45.8)
	No	108 (47.2)			84 (54.2)		
	No idea	27 (11.8)			38 (24.5)		
14. Can a person be infected through blood transfusion?	Yes	183 (79.9)	183 (79.9)	46 (20.1)	103 (66.5)	103 (66.5)	55 (35.5)
	No	38 (16.6)			32 (20.6)		
	No idea	8 (3.5)			23 (14.8)		
15.Can a person donate blood when his/her blood pressure is low?	Yes	15 (6.6)	204 (89.1)	25 (10.0)	12 (7.7)	116 (74.8)	39 (25.2)
	No	204 (89.1)			116 (74.8)		
	No idea	10 (4.4)			27 (17.4)		
16. Can a person with high blood pressure donate blood?	Yes	50 (21.8)	136 (59.4)	93 (40.6)	21 (13.5)	90 (58.1)	65 (41.9)
	No	136 (59.4)			90 (58.1)		
	No idea	43 (18.8)			44 (28.4)		
17. Can an HIV infected person donate blood?	Yes	11 (4.8)	212 (92.6)	17 (7.4)	10 (6.5)	131 (84.5)	24 (15.5)
	No	212 (92.6)			131 (84.5)		
	No idea	6 (2.6)			14 (9.0)		
18. Disease that can be transmitted by transfusion?	HBV, HCV	201 (87.8)	201 (87.8)	28 (12.2)	75 (48.4)	75 (48.4)	80 (51.6)
	Malaria	7 (3.1)			10 (6.5)		
	TB	5 (2.2)			10 (6.5)		
	No idea	16 (7)			60 (38.7)		
19.Who is the best source for donor blood?	Voluntary donor	186 (81.2)	186 (81.2)	43 (18.8)	90 (58.1)	90 (58.1)	65 (41.9)
	Replacement donor	7 (3.1)			17 (11.0)		
	Remunerated donor	3 (1.3)			4 (2.6)		
	No idea	33 (14.4)			44 (28.4)		
20. Do all surgical procedures require blood transfusion?	Yes	39 (17)	164 (71.6)	65 (28.4)	30 (19.4)	72 (46.5)	83 (53.5)
	No	164 (71.6)			72 (46.5)		
	No idea	26 (11.4)			53 (34.1)		

Medical students		**Non-medical students**	
Good knowledge n (%)	**Poor knowledge n (%)**	**Good knowledge n (%)**	**Poor knowledge n (%)**
153 (66.8)	76 (33.2)	54 (34.8)	101 (65.2)
Total participants			
Good knowledge n (%)		Poor knowledge n (%)	
207 (53.9)		117 (46.1)	

Results from this section indicate that 66.8% of medical students and 34.8% of non-medical students demonstrate a commendable level of knowledge on the subject. Additionally, a high percentage of 94.8% of medical students and 91.6% of non-medical students acknowledge that the primary aim of blood donation is to save lives rather than benefiting relatives or securing insurance. However, it's worth noting that fewer than half of both medical and non-medical students possess knowledge regarding the maximum age for blood donation, as highlighted in a previous study (Mulugeta Melku, 2018).

Table 3: Perception towards blood donation of Medical and Non-Medical students of UoC.

Item	Response	Medical			Non-Medical		
		Frequency n (%)	Positive perception n (%)	Negative perception n (%)	Frequency n (%)	Positive perception n (%)	Negative Perception n (%)
1. Donors have a risk for contracting infection like HIV or Hepatitis B & C Infection during blood donation	Yes	140 (61.1)	89 (38.9)	140 (61.1)	92 (59.4)	63 (40.6)	92 (59.4)
	No	89 (38.9)			63 (40.6)		
2. Donation of blood leads to infertility	Yes	18 (7.1)	137 (92.1)	18 (7.1)	18 (11.6)	137 (88.4)	18 (11.6)
	No	137 (92.1)			137 (88.4)		
3. Donation of blood leads to permanent anaemia	Yes	14 (6.1)	215 (93.9)	14 (6.1)	16 (10.3)	139 (89.7)	16 (10.3)
	No	215 (93.9)			139 (89.7)		
4. Blood donation can lead to death	Yes	16 (7.0)	213 (93.0)	16 (7.0)	19 (12.3)	136 (87.7)	19 (12.3)
	No	213 (93.0)			136 (87.7)		
5. Blood donation affects physical strength	Yes	60 (26.2)	169 (7.8)	60 (26.2)	75 (48.4)	80 (51.6)	75 (48.4)
	No	169 (7.8)			80 (51.6)		
6. Blood donation is a painful procedure	Yes	47 (20.5)	182 (79.5)	47 (20.5)	42 (27.1)	113 (72.9)	42 (27.1)
	No	182 (79.5)			113 (72.9)		

Assessing the perception of medical students and non-medical students towards blood donation, with the options of either positive or negative. The first question asked was whether donors are at risk of contracting infections such as HIV or hepatitis B & C during blood transfusion. The answer 'yes' would signify a negative perception and 'no' indicates a positive perception. 61.1% of medical students have a negative perception towards blood donation while 59.4% of medical students have a positive perception. For the other items on perception, most medical students have positive perceptions on blood donation. The trend is the same for non-medical students except for the fifth item in which blood donation affects physical strength. For this item, 51.6% of non-medical students have positive perception while 48.4% have negative perception.

Table 4: Practice towards blood donation of Medical and Non-Medical students of UoC

		Medical students 229 n (%)	Non-medical students 55 n (%)
Donated before	Reasons		
YES	A friend or relatives needed blood	9 (3.9)	3 (1.9)
	Voluntary	63 (27.5)	22 (14.2)

108 (28.1)	Remuneration (rewarded with money)	1 (0.4)	2 (1.3)
	To know your screening result	4 (1.7)	4 (2.6)
Total		**77(33.6)**	**31 (20.0)**
Frequency of blood donation	Once	37 (48.0)	16 (51.6)
	Twice	24 (31.2)	9 (29.0)
	Thrice	6 (7.8)	4 (12.9)
	> Thrice	10 (13.0)	2 (6.5)
NO 276 (71.9)	Not approached to donate	61 (40.1)	32 (25.8)
	Unfit to donate	64 (42.1)	37 (29.8)
	Donate for friends and relatives in future	6 (3.9)	11 (8.9)
	Fear of needles	17 (11.2)	24 (19.4)
	Fear of knowing health status	4 (2.6)	15 (12.1)
	Donated blood may be sold	0 (0)	5 (4.0)
Total		**152 (66.4)**	**124 (80.0)**

Assessing the donation behaviour of both medical and non-medical students regarding blood donation, the study queried whether participants had previously donated. Results indicated a significant portion-66.4% of medical students and 80% of non-medical students—had never donated blood. Conversely, approximately 33.6% of medical students and 20% of non-medical students had engaged in blood donation, predominantly on a voluntary basis. Notably, medical students demonstrated a higher propensity for blood donation compared to their non-medical counterparts. Nonetheless, a substantial majority, 71.9% of both medical and non-medical students-had never donated blood, citing reasons such as being medically unfit or not being approached to donate as the primary factors. This study aimed to explore the connection between knowledge and the practice of blood donation among both medical and non-medical students at the University of Cyberjaya. Findings indicate that there is no significant correlation between the knowledge level of medical students and their blood donation practices (p=0.187). Similarly, there is no significant association observed between the knowledge level of non-medical students and their blood donation practices (p=0.238).

Table 5: Association between knowledge and practice of blood donation among Medical and Non-Medical students of UoC

Field of study	Knowledge	Practice		Total	p value
		Donated	Never donated		
Medical	Good	47	106	153	0.187
	Poor	30	46	76	
	Total	77	152	229	
Non-medical	Good	8	46	54	0.238
	Poor	23	78	101	
	Total	31	124	155	
Total	Good	55	152	207	0.464
	Poor	53	124	177	
	Total	108	276	384	

Table 6: Association between perception and practice of blood donation of blood donation among Medical and Non-Medical students of UoC

Field of Study	Perception	Have you donated blood before?		Total	p value
		Yes	No		
Non-Medical	Negative	9	36	45	0.710
	Positive	25	85	110	
	Total	34	121	155	
Medical	Negative	6	17	23	0.501
	Positive	68	138	206	
	Total	74	155	229	

Total	Negative	15	53	68	0.220
	Positive	93	223	316	
	Total	**108**	**276**	**384**	

This research aimed to examine the correlation between perception and the practice of blood donation among both medical and non-medical students at the University of Cyberjaya. The findings indicate that there is no significant relationship between the perception of medical students regarding blood donation and their actual donation behavior (p=0.501). Similarly, there is no significant association observed between the perception of non-medical students regarding blood donation and their donation practices (p=0.710).

In this cross-sectional study, the prevalence of blood donation practices among both medical and non-medical students at the University of Cyberjaya was investigated. The findings indicated that there is no significant correlation between these variables (p=0.668).

Table 7: Prevalence of blood donation among Medical and Non-Medical students of UoC

Variables	Medical	Non - Medical	P value
Once (n) (%)	37 (48.0)	16 (51.6)	0.668
Twice (n) (%)	24 (31.2)	9 (29.0)	
Thrice (n) (%)	6 (7.8)	4 (12.9)	
> Thrice (n) (%)	10 (13.0)	2 (6.5)	
Total	**77**	**31**	

Table 8: Association between course of study and practice of blood donation

Variables	Medical	Non - Medical	Total	P value
Donated before (n) (%)	77 (33.6)	31 (20.0)	108	0.004
Not donated before (n) (%)	152 (66.4)	124 (80.0)	276	

In this cross-sectional study, the relationship between the field of study and blood donation practices was examined. The findings indicated a significant correlation between these variables (p=0.004).

DISCUSSION

Our study reveals that medical students have more knowledge compared to non-medical students about blood donation. More than 60% of the medical students have good knowledge about blood donation. However, only about 30% of them have donated blood before. This is consistent with the previous studies (Mulugeta Melku, 2018). About 30% of non-medical students have good knowledge about blood donation but only 20% of them have donated blood before. This is comparable with another study conducted (Wiwanitkit, 2002) where almost most participants (80%) had good knowledge but only 11% had ever donated blood voluntarily.

In addition, this study shows no significant association between knowledge and practice of blood donation among medical and non-medical students of University of Cyberjaya. Factors influencing knowledge are education campaigns and media accessibility whereas factors influencing practice includes fear, misconceptions, cultural and accessibility to centres as discussed in other studies (Salaudeen, 2011). The finding of this study would suggest that knowledge does not necessarily lead to actual blood donation practice. This highlights the need for targeted interventions to bridge this gap. By addressing the factors above can encourage many to translate their knowledge about the importance of blood donation into actionable steps that can save lives.

Our results show a general trend of positive perception can be seen across both medical and non-medical students, with a percentage of 90.0% and 71.0% respectively. The same

result can also be seen in previous studies (Jasim N. Al-Asadi, 2018). Medical and non-medical students showed positive perceptions towards blood donation across all items of part C of the questionnaire except for one item. The said item was whether a donor is at risk of contracting infections such as HIV and Hepatitis B & C during blood donation. However, there is no significant association between perception of medical students (p=0.501) and non-medical students (p=0.710) with blood donation. This is consistent with a previous study done in Southeastern Nigeria. (Ugwu, NI; Oti, WJO, 2019). Availability could be a reason for said trend as donations can only be carried out by health professionals and are done occasionally. Time could be a constraint for the students to donate, given their tight schedule packed with assignments and projects. Other than that, some parents are reluctant to let their children donate blood, which could also contribute to initial discussion of insignificance in association between perception and practice of blood donation. The resulting outcome is an indication that positive perception does not necessarily translate to practice. Tackling the underlying issue would help many in overcoming this invisible barrier, ultimately creating a society that practices blood donation.

This study also reveals that a considerable proportion of medical students (33.6%) have participated in blood donation at least once in their lives, in comparison to their non-medical counterparts (20%). However, 66.4% and 80% of medical and non-medical students, respectively, have not donated blood before. This finding aligns with previous research conducted at Management and Science University Shah Alam (Elnajeh et al., 2017) and a cross-sectional study of 690 students of private and public universities in Karachi, where 40.2% medical students whereas 32.9% of non-medical students had donated before (Anwer et al., 2016). Similar trends were observed in a study conducted at Dhaka University (Hosain et al., 1997). However, the proportion of blood donors remained significantly low among both medical and non-medical students. Consequently, our analysis revealed no significant association between the prevalence of blood donation among medical and non-medical students at UOC (p=0.668). Encouragingly, strategies aimed at increasing blood donors could involve proactive approaches, such as reaching out to potential donors within the university campus. Notably, both groups of students cited voluntary motivation as the primary reason for their blood donations. Conversely, a higher proportion of students from both cohorts cited being medically unfit as the primary reason for abstaining from blood donation accounting for medical (28%) and non-medical (23.9%) respectively. This trend mirrors findings from a study conducted at Universiti Kebangsaan Malaysia, where most non-donors (36.5%) cited similar health-related concerns as deterrents to blood donation. Furthermore, our study identifies a significant relationship between the field of study and blood donation practices among both medical and non-medical students at the University of Cyberjaya (p=0.004). These results align with those of an institutional-based cross-sectional study conducted at Menschen für Menschen Agro Technical and Technology College (MFMATTC) and Harar Health Sciences College (HHSC), where a higher prevalence of blood donation practice was observed among health science students compared to non-health science students (53.5% versus 46.5%) (Idris et al., 2023). A similar trend was also observed among students at Management and Science University (MSU), Malaysia (Elnajeh et al., 2017). This trend could be attributed to formal education on donation integrated into their curriculum, easier access to donation resources, and the supportive environment provided by peers.

Discuss findings of your study with relevant reasoning along with proper citations/references.

Limitation

1) Sampling Bias: The use of non-probability convenience sampling may introduce bias, as it may not fully represent the wider student population.
2) Self-Reported Data: The reliance on self-reported data can lead to response bias, where participants may overreport socially desirable behaviors or underreport undesirable ones.
3) Cross-Sectional Design: This design captures data at a single point in time, which limits the ability to infer causality between variables.
4) External Validity: The study is conducted within a single university, which may limit the generalizability of the findings to other settings or populations.

CONCLUSION

In summary, while medical students exhibited higher levels of knowledge compared to non-medical students, there was no significant relationship between knowledge and actual blood donation behaviour. Both groups, however, displayed positive attitudes towards blood donation, yet this did not significantly correlate with their donation practices. Notably, medical students were more actively involved in blood donation compared to their non-medical peers. However, both cohorts shared concerns regarding the risk of infection. It's imperative to implement targeted interventions aimed at enhancing blood donation practices.

Declaration by Authors

Ethical Approval: Approved by the Cyberjaya Research Ethics Review Committee (CRERC) at the University of Cyberjaya, with reference code UOC/CRERC/AL-ER (48/2023).
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