

KNOWLEDGE, ATTITUDE AND PRACTICE OF BLOOD DONATION AMONG UNDERGRADUATE STUDENTS IN A PUBLIC UNIVERSITY, MALAYSIA

*SALIMAH JAPAR¹, NOR AMALINA YAHYA², ROSNA ABDUL RAMAN¹, ABDURRAHMAN MUHAMMAD SANI³, AZURA ABDUL HALAIN¹, KIM GEOK⁴, SOH, KIM LAM SOH¹

¹ Department of Nursing and Rehabilitation, Faculty of Medicine and Health Sciences, Universiti Putra Malaysia, Malaysia,

² Gleneagles Penang Hospital, Malaysia,

³ Department of Nursing Sciences, College of Health Science, Usmanu Danfodiyo University Sokoto, Nigeria

⁴ Department of Sport Studies, Faculty of Educational Studies, Universiti Putra Malaysia, Malaysia.

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ABSTRACT

Blood donation save millions of lives. An increasing demand for blood in almost all medical centers throughout Malaysia indicated the requirement for more blood donors. The current strategy of blood donor programs in all blood centers in order to overcome the shortage of donations of safe blood in Malaysia is to make a maximum effort to recruit safe blood donors from special, low-risk groups, such as university students. The study was to determine the knowledge, attitude, and practices among undergraduate health sciences students regarding blood donations in a public university. A cross-sectional study was conducted among undergraduate health sciences students. The data were collected from February until April 2016 and SPSS, version 20.0 was used to analyze the data. The result revealed, a total of 210 undergraduate health sciences student participated in this study. Approximately, 46.2% had adequate knowledge, 57.1% had a positive attitude towards blood donation and less than 50% of the respondents had ever donated blood. Although there is positive attitude of blood donation among student but there is low level of knowledge of blood donation. Therefore, there is need to intensify public awareness and knowledge on blood donation. The campaign on blood donation should be continued with various methods to create more opportunities for the students, which can greatly enhance their knowledge, promote positive attitude and good blood donation practice.

Key words: Knowledge, Attitude, Practice, Blood Donation, Undergraduate Student

INTRODUCTION

Blood donation can save millions of lives. Donation of blood is a behavioral phenomenon and is always considered a humanitarian act (Dhara & Dinesh, 2012). Nowadays, blood transfusion is still one of the main components of care and treatment to patients with serious hemorrhagic conditions such as trauma, major surgeries, chemotherapy, and patients in need of long-term therapies (Javadzadeh Shahshahani *et al.*, 2006). In current conditions, a problem regarding a permanent shortage of blood is observed in blood services all over the world (Kumari and Raina, 2015). The need for blood is growing day by day. According to Blood Centres of the Pacific, 2009, more than 4.5 million patients that is about 14% of all patients admitted to hospitals, require blood transfusions each year in the US and Canada. In the year 2010, the Malaysian National Blood Centre has targeted that, more than 10% of Malaysian will participate in blood donation, but, unfortunately, only 3% were reported to do so because of lack of knowledge towards blood donation (Hamid *et al.*, 2013). Lack of knowledge is common factors in people's decisions on whether to donate blood repeatedly. Moreover, bad thinking and negative perception towards blood donation

resulted in a lack of donor among people (Papagiannis *et al.*, 2016). Various strategies have been implemented to overcome the shortage of safe blood donation worldwide. In Malaysia, university students are a target group of the Malaysian National Blood Centre for mobile blood drives (Jalalian *et al.*, 2010). University students are from a large population, health and active, therefore they have good potential of the blood donor. (Jalalian *et al.*, 2010). However, they have to be encouraged, inspired and motivated to donate blood. There have been very few researches done related to the knowledge, attitude, and practice of blood donation among undergraduate students in Malaysia. Considering the importance and significance of university student in blood donation, this study aimed to determine the knowledge, attitude, and practices of undergraduate health sciences students regarding blood donations.

Materials And Methods

Study design, Study Population

This was a cross-sectional study which was conducted at a public university in West Malaysia. The study population comprises of 210 undergraduate health sciences students. Data was collected between

February 2016 until April 2016.

Questionnaire

A Self-administered questionnaire was used in this study. The questionnaire was adapted from previous research conducted by Aslami *et al.* (2015) and Sabu *et al.* (2011) with minor modifications to meet the local requirement. The questionnaire consists of 37 items divided into four sections: Section I (socio-demographic characteristics); Section II (knowledge on blood donation); Section III (attitude towards blood donation); and Section IV (practices of blood donation). Knowledge, Attitude, and Practice of blood donation were measured through 4 Likert scales. Adequate knowledge was classified as having

a percentage of greater to or equal to 60 ($\geq 60\%$) and less than 60% was classified as inadequate knowledge. The median score was used as a cut-off point to categorize into the positive and negative level of attitude. Score above the median 28 was labeled "positive attitude" and the median score of 28 or less was categorized as "negative attitude".

Data analysis

Data was analyzed using Statistical Package for Social Science (SPSS) version 20.0. The descriptive analysis was used; frequency and percentage to describe a socio-demographic characteristics, knowledge, attitude and practice of blood donation.

Table 1: Distribution of the socio-demographic profiles of respondents

Variables	n	%
Age (Mean:21.70, SD:1.42)		
≤ 22 years old	151	71.9
> 22 years old	59	28.1
Gender		
Male	58	27.6
Female	152	72.4
Religion		
Muslim	177	84.3
Non-Muslim	33	15.7
Race		
Malay	173	82.4
Non-Malay	37	17.6
Year of Study		
Year 1	51	24.3
Year 2	48	22.9
Year 3	58	27.6
Year 4	53	25.2

Results

Socio-demographic profile of the respondents

A total of 210 health sciences students participated in this study with a response rate of 100%. Most of them were female (72.4%), Muslim (84.3%) and Malay (82.4%). The numbers of respondents are about equally distributed between years of study. Details of their socio-demographic profile are presented in Table 1.

Knowledge on blood donation

The result revealed that 113 (53.8%) had inadequate knowledge and 97 (46.2%) of respondent had adequate knowledge towards blood donation. More than two third of respondents correctly answered Q1: minimum and maximum age for blood donation, 148 (70.5%) and Q2: minimum weight for blood donation, 138 (65.7%). However, only 89 (42.4%) of respondents knew Q10: how many lives can be saved by a single blood donation and 82 (39.0%) of them knew Q6: the amounts of blood that can be donated at a time by a person. More than 90% of respondents gave the correct answer for questions number Q11: universal donor and Q12: universal recipients, 94.3%, and 95.2% respectively. The

majority of respondents correctly identified that Q14: someone with the history of drug abuse 171 (81.4%) and Q15: someone with unsafe sexual relationships 130 (85.7%) are not allowed to donate blood. While most of them answered wrongly Q5: what is the proportion of one's body weight is constituted by blood and Q16: blood donation can lead to transmission of infectious diseases such as HIV and hepatitis or not. The distribution of respondent's knowledge towards blood donation shows in Table 2.

Attitude on blood donation

Approximately, 120 (57.1%) of respondents had the positive attitude towards blood donation while 90 (42.9%) had the negative attitude towards blood donation. Two third of them (62.4%) agreed that donating blood is pleasant and 104 (49.5%) think donating blood is a good idea. More than two third (73.8%) strongly disagree that donating blood is the wrong thing to do. They also strongly disagree 157 (74.8%) that donating blood is unnecessary. More than half of the respondents believed they will save patient's life if they contribute to donating. Overall feel strongly disagree 119 (48.6%) if they donate,

they will do something harmful to them. While less than half strongly disagree if donating will cause anemic and lose weight if they donate. The distribution of attitude on blood donation was shown in Table 3.

Practice on blood donation

The majority of 126 (60.0%) of respondents never donated blood and only 84 (40.0%) have donated blood. Most of the donors, 79 (94%) were voluntary. Among 84 donors, 50 (59.5%) had donated blood only once, 24 (28.5%) donate more than two times and 10, (12%) of donors are not able to remember how many times they donate in the past two years.

Most of the donors feel positive after donating blood (n=77, 91.7%). Only 16 (19%) of donors experiences discomfort after donating blood. The reasons for non donation by those who have not included; 55 (43.6%) due to fear or pain, 47 (31.3%) feels medically unfit to donate, 13 (10.3%) due to safety reasons, 11 (8.7%) parents or friends told not to donate blood, 11 (8.7%) due to disease, 6 (4.8%) never thought about donating blood, and 10 (7.9%) others. The Distribution of practice on blood donation shows in Table 4.

Table 2: Distribution of knowledge on blood donation

Knowledge Statement on Blood Donation	Correct answer n (%)	Wrong answer n(%)
What is minimum and maximum age for blood donation	148(70.5)	62(29.5)
What is minimum weight for blood donation	138(65.7)	72(34.3)
What is minimum Hemoglobin level required to donate blood	99(47.1)	111(52.9)
What is minimum interval time between two blood donations	112(53.3)	98(46.7)
What proportion of one's body weight is constituted by blood	34(16.2)	176(83.3)
What are the amounts of blood that can be donated at a time by a person	82(39.0)	128(61.0)
How long should a person stop from doing normal work after the procedure	69(32.9)	141(67.1)
What kind of food should one take after blood donation	73(34.8)	137(65.2)
What is the duration of a donation process	123(58.6)	87(41.4)
How many lives can be saved by a single blood donation	89(42.4)	121(57.6)
Universal donors are	198(94.3)	12(5.7)
Universal recipients are	200(95.2)	10(4.8)
What is most required blood group	157(74.8)	53(25.2)
Is someone with a history of drug abuse allowed to donate blood	171(81.4)	39(18.6)
Is someone with a history of unsafe sexual relationship allowed to donate blood	130(85.7)	80(14.3)
Does blood donation lead to transmission of infectious diseases such as HIV and hepatitis	50(23.8)	160(76.2)

Discussion

In this study, less than half (46.2%) of the undergraduate health sciences students had adequate knowledge towards blood donation. It is slightly higher than previous studies by Devi *et al.* (2012). Bharatwaj *et al.* (2012) and Aslami *et al.* (2015) which revealed that 33.1%, 37.5%, and 35% respondents had adequate knowledge respectively. All the previous studies showed that there is inadequate level of knowledge due to the misconceptions towards blood donation. However, the level of knowledge in this present study was lower than a study done by Giri and Phalke (2012) that found that 53.1 % had good knowledge among medical students. Whereas according to Ahmed *et al.* (2014) more than 90% of undergraduate medical students in Karachi had adequate knowledge regarding the various aspects of blood donation. Slightly more than half of the respondents (57.1%) had a positive attitude towards blood donation among undergraduate's health sciences students.

Similar findings was also reported among undergraduate university students (Ahmed *et al.*, 2014; Nigatu and Demissie, 2014; Bantayehu, 2015) Studies by Sabu *et al.* (2011) and Bantayehu (2015), showed more than 80% of health sciences students in India has positive attitude toward blood donation. This difference may be due to study population difference which some study was done among medical and health sciences and other from natural and social sciences. Less than half (40%) of undergraduates students in this study had ever donated blood and 60% never donated. This is similar to study done by Jain and Dixit (2016) which found that only 35.36% respondents had donated blood. The finding was consistent with the study by Sabu *et al.* (2011) among Health Sciences students in India and the reasons majority non-donors felt that they are medically unfit to donate blood. However, according to a study by Manikandan *et al.* (2013) among the Healthcare professionals, medical students in India showed only 10.57% had donated

blood that indicate a small percentage of people had ever donated compared to this study. Practices regarding blood donation among students of district Una, India was found lower (17.3%) than this study and stated that lower practices than the requirement due to rare blood donation campaign services and less encouragement to students for donation of blood. (Thakur *et al.*, 2015). In this study, the major reasons why students never donated blood because of the feeling of fear and pain and feel medically

unfit. Previous studies also reported that fear of pain, and fear of illness as the main reasons for not donating blood (Sabu *et al.*, 2011; Siddiqui *et al.*, 2013; Kumari and Raina, 2015; Pokhrel *et al.*, 2016). Other than that, lack of time was the major reason for not donating blood (Giri and Phalke, 2012; Alfouzan, 2014) (Alfouzan, 2014; Giri & Phalke, 2012).

Table 3 Distribution of attitude on blood donation

Statement	Strongly Disagree n (%)	Disagree n (%)	Agree n (%)	Strongly Agree n (%)
Overall, I think donating blood is pleasant	2 (1.0)	10 (4.8)	131 (62.4)	67.0 (31.9)
Overall, I think donating blood is a good idea	4 (1.9)	3 (1.4)	99 (47.4)	104 (49.5)
Overall, I think donating blood is the wrong thing to do	155 (73.8)	48 (22.9)	3 (1.4)	4 (1.9)
Overall, I think donating blood is unnecessary	157 (74.8)	42 (20)	5 (2.4)	6 (2.9)
If I donate blood, I will saves patient's lives	3 (1.4)	1 (0.5)	73 (34.8)	133 (63.3)
If I donate blood, I will feel that I am doing something harmful to me	119 (48.6)	72 (43.6)	12 (5.2)	7 (2.4)
If I donate blood, I will become anemic	102 (48.6)	92 (43.8)	11 (5.2)	5 (2.4)
If I donate blood, I will lose weight	74 (35.2)	101 (48.1)	31 (14.8)	4 (1.9)

Table 4: Distribution of Practice on blood donation

Variables	n	%
Have you ever donated blood?		
Yes	84	40.0
No	126	60.0
How many times you donate blood in the past two years? (n=84)		
Once	50	59.5
More than two times	24	28.5
Not able to remember	10	12
How did you feel after donating blood?		
Feeling positive	77	91.7
Indifferent	7	8.3
Did you experience any discomfort after donating blood?		
Yes	16	19
No	68	81

Reasons Not Donating Blood		
Feels medically unfit	47	31.3
Due to fear or pain	55	43.6
Due to safety reasons	13	10.3
Never thought about donating blood	6	4.8
No one has ever asked to donate blood	3	2.8
Parents or friends told not to donate blood	11	8.7
Due to disease	11	8.7
Others	10	7.9

Conclusion

This study showed that students had an inadequate level of knowledge towards blood donation, positive attitude, and low practice among students. The campaign on blood donation should be continued with various methods to create more opportunities for the students, which can greatly enhance their knowledge, promote positive attitude and good blood donation practice. A great understanding of blood donation is important to ensure that the blood supply is sufficient for use.

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