MJN Knowledge, Attitude and Practice (KAP) Towards Blood Donation among E-pjj Degree Nursing Students

Rosuzeita Fauzi*, Nur Salma Jamaludin, Noor Fathiah Ahmed, Siti Khuzaimah Ahmad Sharoni

Centre for Nursing Studies, Faculty of Health Sciences, Universiti Teknologi MARA Selangor, Puncak Alam Campus, 42300 Bandar Puncak Alam, Selangor, Malaysia

*Corresponding Author's Email address: rosuzeita@uitm.edu.my

ABSTRACT

Background: The shortage of blood in any hospital in every state is due to an increase in blood demand for severe critical injuries, with a fewer voluntary and limited number of replacement blood donors. The cases become worst when there is a lack of voluntary blood donors. **Objective:** This study aims to assess the knowledge, attitude, and practice (KAP) towards blood donation among e-PJJ degree nursing students. **Methods:** A cross-sectional survey was conducted among 109 e-PJJ degree nursing students at UiTM Puncak Alam campus. Students who participated using purposive sampling (n=109) were asked to complete a set of self-administered questionnaires. Knowledge, attitude, and practice questionnaire were used to measure KAP towards blood donation. The association between knowledge and attitude was determined using Pearson correlation. **Results:** The mean (SD) score for the level of knowledge towards blood donation is 15.59 (4.59) and for the attitude is 5.17 (1.03). Percentage of practice, 65 (59.6%) of the students said they donate blood voluntarily, and just over half of the students, 103 (94.5%), reported that they are willing to become a regular donor. The level of knowledge has a significant positive correlation with the attitude towards blood donation (r=1.00; p< 0.01). **Conclusions:** In general, most students in this study had good knowledge and a positive attitude towards blood donation. However, blood donation was still an unsatisfactory practise. A targeted approach to improving blood donation knowledge in this population should be implemented as one of the approaches to improve blood donation rates in the future.

Keywords: Blood Donation; Knowledge; Attitude, Practice; Nursing Students

INTRODUCTION

In Malaysia, obtaining a regular supply of safe blood donors has recently become a concern. The shortage of blood in any hospital in every state is due to increased blood demand for severe critical injuries, with a fewer voluntary and limited number of replacement blood donors. The cases become worst when there is a lack voluntary blood donors (Anwer *et al.*, 2016). This may be due to a lack of understanding among students, as well as a negative perception toward blood donation and poor donation practises (Urgesa, Hassen, & Seyoum, 2017). In every developed nation, regular voluntary blood donation should account for at least 5% of the population. (Ministry of Health, 2016). However, Malaysia has not met the World Health Organization's 2010 (WHO) standard, which aims for a blood donation rate of 2.0% to 2.25%. With Malaysia's population expected to age by 2020, blood transfusion services may strive to maintain hospital demands for blood and blood uses. As more and more elderly people are treated in hospitals, the need for blood and its products is likely to rise.

Besides, there are many uninformed and misunderstandings among people in underdeveloped nations along with anxieties about the blood donation process, resulting in a small number of voluntary donors. Due to a lack of knowledge, fear, facilities, convenience, and the quality of service number of donors are less. To increase the success and retention of donor it is critical to understand the motives of blood donors (Dubey *et al.*, 2014). Greinacher *et al.*, (2017) demonstrated this by looking at the impact of demographic changes on blood donation and transfusion demand, finding that the usage of blood packed red cells resulted in an increase in absolute transfusion demand in elderly patients over 75 years old.

The majority of donor numbers increase are among repeat donors rather than new donors, which reveals Malaysia's blood shortage situation. Despite an increase in total donors, chronic blood shortages persist due to a reduction in donor population with an increase in demand (Wooi Seong, Raffeal & Ayob, 2014). In reality, Malaysia's blood donation rate remains low, with only 2.2% of the population donating blood, compared to 3.5% to 5.0% in developed countries in 2014 (Bernama, 2015). According to the WHO, blood donation rates in high-, middle-, and low-income countries are 33.1, 11.7, and 4.6 donations per 1000 persons, respectively (WHO, 2016), Malaysia's current condition equates to only 22.5 donations per 1000 persons. This means that significant work needs to be done to increase blood donation rates before Malaysia's government's 2020 target of becoming an industrialised nation (Jabatan Perdana Menteri, 2010). Furthermore, an average of 2,000 bags of blood are required to treat approximately 1,000 patients (Bernama, 2015). This comes after claims that 3% to 5% of Malaysians, or 1 in every 20 (1.5 million) persons, are carriers of the thalassemia gene, which is a hereditary blood disorder that requires monthly blood transfusions (Ministry of Health, 2013). Lack of donors throughout the various festival and school holidays exacerbates the national blood shortage (Mei Ling, 2018). Nowadays, Expectancy, accidents, severe anaemia, cancer, chronic diseases, pregnancy-related complications, and technological breakthroughs in healthcare drive up demand for whole blood transfusions. Blood shortages in various facilities are caused by donor suitability, negative attitudes, and a lack of education (Gebresilase *et al.*, 2017). This is also related to people's reluctance to donate blood. People fear developing a complication as a result of donating blood. Urgessa, Hassen, & Seyoum (2017) found that the lack of voluntary blood donors could be due to insufficient community knowledge, unfavourable attitude, and poor donation practice regarding voluntary blood donation. Thus, this study aimed to determine the level of knowledge, attitude, and practice (KAP) of e-PJJ degree nursing students towards blood donation.

METHODOLOGY

Study Design, Location, and Sampling

A cross-sectional study was used in this study, and the study was conducted at the Faculty of Health Sciences, UiTM Selangor Puncak Alam Campus. The target population for this study is 109 participants (distance learning) E-PJJ degree nursing students. Purposive sampling was employed during the selection of potential students. The inclusion criteria in this study are 18 years old and above, Malaysian, able to understand English and Malay, and E-PJJ degree nursing students and students who are on leave during the study period are excluded from this study. The sample size was determined using a formula by Krejcie & Morgan (1970), the required sample size, according to the calculations was 109.Ethical clearance had been obtained from the UiTM Research Ethics Committee on the 4th February 2020 with the reference number REC/720/19. The data collection process began after the approval was received. The study was based on the principle of voluntary participation. The purpose of the study was explained to all of the students in detail to ensure that they understood it. Each student was given an informed consent form to fill in, which had to be documented and signed. The signed informed consent form was saved in a file. The information was kept private and safe.

Research Instrument

The knowledge and attitude of blood donation questionnaires were adapted from Melku *et al.*, (2018). Part A consists of sociodemographic data (gender, residence, age, religion, marital status, occupational, and ethnicity). Part B consists of knowledge toward blood donation to measure the level of knowledge. It consists of 19 items questionnaire, each yes; answers will be given 1 and 0 respectively. A higher score of more than 70% indicates adequate knowledge towards blood donation. Part C consists of an attitude of blood donation to measure the level of attitude. It consists of 6 items questionnaires. Each yes answer will be given 1 (positive attitude) and 0 (negative attitude). A higher score of more than 70% indicates students have a positive attitude. Part D consists of the practice of blood donation. This questionnaire was adapted from Uma, Arun, & Arumugam (2013). It consists of four items to determine the practice of blood donation among E-PJJ nursing students. The frequency of donations and the history of past donations were used to assess the practice.

Statistical Analysis

IBM SPSS version 25.0 was used in analysed the result. Descriptive statistics consisting of percentage, frequency, mean, and standard deviation were used to analyse the demographic data, the level of knowledge,

attitude, and practice of blood donation. The association between knowledge and attitude regarding blood donation was determined using Pearson correlation. The threshold for statistical significance was established at *p*=0.05.

RESULTS

Demographic Characteristics

Table 1 presents the main characteristics of the participants. Almost half of students, 98 (89.5%), lived in an urban area while only 11 (10.5%) lived in a rural area. Almost two-thirds of the students, 83 (76.3%), were single, and the remaining 26 (23.7%) were married. Based on the working department, more than half were from nursing department 101 (89.4%), only a small number from midwifery 9 (5.3%), and from anaesthesia department 6 (2.6%). Over half 82 (75.2%) of those students donated blood 2 to10 times, and 58 (53.2%) students donated blood for the first time at the age 18-25 years old.

Table 1: Demographic Characteristics of the Sample

Variable	n	%
Residence		
Rural	11	10.5
Urban	98	89.5
Marital Status		
Single	26	23.7
Married	83	76.3
Department		
Nursing	101	89.4
Midwifery	9	5.3
Anesthesia	6	2.6
Number of donations		
First time	5	4.6
2-10 times	82	75.2
11 -20 times	21	19. 3
>20 times	1	0.9
Age of 1ˢᵗ donation		
18 -25	58	53.2
26 -35	37	33.9
36 -45	14	12. 9

Knowledge Towards Blood Donation

For the following, each item in the knowledge towards blood donation is analysed and presented in Table 2. The results indicated that all the students 109 (100%) knew the place for blood donation, a person with low blood pressure cannot donate blood but was aware of the blood group. However, less than half of the

student did not know the maximum age to donate blood 53 (48.6%), and the maximum amount of blood that can be donated at one time 52 (47.8%).

Table 2: Frequency of knowledge towards blood donation items

Knowledge towards blood donation Items	Correct n (%)	Incorrect n (%)
"Is blood donation harmful to the donor?"	100 (92.1)	9 (7.9)
"Where is the place of blood donation?"	109 (100)	0
"The goal of blood donation"	100 (92.1)	9 (7.9)
"Minimum age to donate blood"	80 (73.7)	29 (26.3)
"Maximum age to donate blood"	53 (48.6)	56 (51.4)
"What is the minimum weight for blood donation."	76 (78.9)	23 (21.1)
"What is the maximum volume of blood at once donation"	52 (47.8)	57 (52.2)
"At what minimum interval can a person donate blood"	63 (57.9)	46 (42.1)
"Do you know about the blood group"	109 (100)	0
"Can pregnant women donate blood?"	103 (94.7)	6 (5.3)
"Can women Female during menstruation donate blood?"	92 (84.2)	17 (15.8)
"Can cigarette smokers donate blood?"	100 (92.1)	9 (7.9)
"Person can be infected by receiving a blood transfusion"	100 (92.1)	9 (7.9)
"Can a person donate when blood pressure is low"	109 (100)	0
"Can a person with high blood pressure donate blood"	66 (60.5)	43 (39.4)
"Can HIV infected person donate blood?"	103 (97.4)	6 (5.3)
"Disease that can be transmitted by transfusion"	92 (84.2)	17 (15.8)
"The best source of donor blood"	100 (92.1)	9 (7.9)
"Do all surgical procedure requires blood transfusion"	103 (94.7)	6 (5.30)

Table 3 showed the mean (SD) score for the level of knowledge towards blood donation. The mean score for the level of knowledge is 15.59 (4.59). The minimum and maximum scores were 5 and 19, respectively.

Table 3: Level of Knowledge Towards Blood Donation

Variable	N	Mean	SD	Maximum	Minimum
Level of knowledge	109	15.59	4.60	19	5

Attitude towards Blood Donation

Table 4 showed the data of each item for attitude towards blood donation. In response to blood donation for moral duty, all students have shown a positive attitude 109 (100%). Approximately 106 (97.4%) of the student were willing to donate blood to an unknown person if asked and ready to tell the family if donated blood. Almost two-thirds of the student, 91(84.2%), willing to become regular donors.

Table 4: Frequency of Attitude towards Blood Donation

Attitude towards Blood Donation Items	Positive attitude n (%)	Negative attitude n (%)
"Blood donation is a moral duty"	109 (100)	0
"Willingness to donate blood for the future"	100 (92.1)	9 (7.9)
"Willingness to donate blood to an unknown person if asked"	106 (97.4)	3 (2.6)
"Do you encourage others to donate blood and willingness to become a regular donor"	103 (94.7)	6 (7.2)
"Willingness to become a regular donor"	91 (84.2)	18 (15.8)
"Willingness to tell the family if donated blood"	106 (97.4)	3 (2.6)

As can be seen from Table 5, the mean (SD) attitude towards blood donation is 5.17 (1.03). The minimum score was 3, and the maximum score 6. This means that the students have a positive attitude towards blood Donation.

Table 5: Level of Attitude Towards Blood Donation

Variable	N	Mean	SD	Maximum	Minimum
Level of Attitude	109	5.17	1.03	6	3

Practice towards Blood Donation

Table 6 below illustrates the practice towards blood donation for each item. 65 (59.6%) of the students donated the blood voluntarily, and 39 (35.8%) donated blood because of friends/relatives. Just over half of the students, 103 (94.5%), reported that they are willing to become regular donors, and 72 (66.1%) they are ready to donate blood once a year. There were 49 (45.0%) feeling of satisfaction, and only 3 (2.8%) of students had the feeling of fear after blood donation.

Table 6: Frequency of Practice towards Blood Donation

Items	Variables	n	%
Reason for donating the blood	*For friends/relatives*	39	35.8
	Voluntarily	65	59.6
	Others	5	4.6
Willing to become a regular donor	*Yes*	103	94.5
	No	0	0.0
	Don't know	6	5.5
If yes, time Interval for a regular donation	*Yearly once*	72	66.1
	Every 6 months	23	21.1
	Every 4 months	9	8.3
	Others	5	4.6
Impact of blood donation	*Satisfaction*	49	45
	Generally better	23	21.1
	Relaxation/Alertness	5	4.6
	Tired/Fatigue	8	7.3
	Numbness	5	4.6
	Fear	3	2.8
	Mixed feelings	16	14.7

Correlation between the level of knowledge and attitude towards blood donation

The results of the Pearson correlational analysis in table 7 revealed that the level of knowledge has a significant positive correlation with the attitude towards blood donation (r=1.00; p< 0.01).

Table 7: Correlation Between the Level of Knowledge and Attitude Towards Blood Donation

Attitude	Level of knowledge	
	r	*p-value**
	1.00	0.000

*Pearson correlation

DISCUSSION

Information on blood donation knowledge, attitude, and practise in all demographics is necessary to sustain adequate and safe blood donation in hospitals. This is because the community is a potential source of volunteer and also to promote community-wide unpaid-volunteer contributions. The average level of knowledge about blood donation was higher in this study. This finding was similar to that of Elnajeh *et al.*, (2017) in a previous study. That study discovered that 97.1% of the participants had enough knowledge. In this study, the factor with a higher knowledge score about blood donation could be because they worked in a health profession where it gives them a greater possibility for a knowledge-seeking process. The higher score also might be because of ease for internet access and also availability of social media for information. The finding is consistent with findings of past studies of Din & Haron (2012), according to the which report, the social networking's impact on knowledge sharing, Malaysia's online social networking culture has a substantial impact as everybody has internet access and can use this platform to share their knowledge. This study has shown as expected that E-PJJ students who were working as healthcare workers have a good knowledge regarding the place for blood donation, and they are aware of other information like a person with low blood pressure cannot donate blood, know their blood group, maximum age to donate blood and maximum volume of donation of blood at once. Moreover, even with a good knowledge and attitude status of an individual, it did not prevent the person from believing the myths and false beliefs that have been spreading around for many years regarding blood donation in different religion and race (Norliza, 2016).

According to the results of this study, the majority of

students have a favourable attitude about blood donation, however there is a significant disparity in the practise of voluntary blood donation, with only 29.4% of them willing to donate blood every 4 to 6 months. The primary reason students donate blood is voluntary, and 35.8% donate blood because of friends/relatives. This emphasizes the importance of widespread public awareness and education through the media to encourage people to come to the blood bank for a blood donation. Most students in this study reveal that they are willing to donate blood for the future and willing to give blood to an unknown person if asked. More blood donation advertisement is needed to create awareness or change the attitudes about why donations are important, teach the public about how to donate, and serve as a reminder.

Blood donation practice was moderate in this study because students should function as role models for the population in terms of voluntary, unpaid donations. Only 59.6% of the blood donated in this study was given voluntarily. This falls short of the WHO's goal of 100% voluntary blood donation. This is because it is likely that students are busy with their actual jobs, and at the same time, they need to continue their studies. This revealed that social encouragement and knowledge are needed to improve students' attitudes toward volunteers. To raise the number of volunteer blood donors, students must be encouraged to donate blood on a regular basis through various blood campaign. The student's knowledge and attitude ratings showed a substantial positive link in this

study. This suggests that having a positive attitude is correlated to having strong knowledge. This finding was comparable to those of a study conducted by Javadzadeh Shahshahani *et al.*, (2006) to examine the level of blood donation knowledge, attitude, and practise.

CONCLUSION

In conclusion it can be said that most students in the present study had a solid understanding and positive attitude towards blood donation. However, blood donation remains a middling or unsatisfactory practise. The student's level of knowledge and attitude scores revealed a substantial positive correlation. One of the initiatives to enhance blood donation rates in the future should be to employ a targeted approach to improve knowledge, attitude, and practise towards blood donation within wider demography. To accomplish the WHO's goal of 100% voluntary blood donation, an active education effort is needed to persuade everyone to donate blood.

Conflict of Interest

There are no conflicts of interest declared by the authors.

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