

ORIGINAL ARTICLE

Knowledge, Towards, and Practice of Blood Donation: a Cross-Sectional Study in Makkah City, Saudi Arabia

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SUMMARY

Background: Insufficient blood supply negatively affects transfusion-dependent patients. Sustaining adequate blood units relies on community education. As future healthcare professionals, medical science students may assist in increasing the number of blood donations. This study assessed blood donation knowledge among medical science students at Umm Al-Qura University in Makkah City, Saudi Arabia.

Methods: Twenty-three questions were administered in an online survey to assess knowledge, attitudes, and practices (KAP) of medical science students regarding blood donation. A chi-squared test was used to examine associations with the status of the blood donation.

Results: A total of 286 students from four departments responded to the questionnaire. Remarkably, higher contributions regarding knowledge and attitude questions were observed in female participants, compared to male participants. Furthermore, students that donated blood demonstrated greater awareness of their blood group ($p < 0.05$), minimum weight legibility, and knowledge regarding the duration of the blood donation procedure ($p < 0.01$).

Conclusions: This study assessed the KAP regarding blood donation among medical science students at Umm Al-Qura University, Saudi Arabia. Furthermore, the most commonly reported barrier was the belief that the individual was not sufficiently fit or healthy to donate. Consequently, targeted education is crucial to emphasize the importance of blood donation and mitigate hospital blood shortages, especially for patients who require blood transfusion units regularly.

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Supplementary Data

Table S1. Responses of medical sciences students to the knowledge, attitude, and practice questions according to the blood donation.

Questions	Answers	Donating blood (n = 47)		Non-donating blood (n = 239)		p-value
		n	%	n	%	
Do you know your blood group?	yes	45	95.7	197	82.4	0.0364 ^a
	no	2	4.3	42	17.6	
What is the youngest age to donate blood?	> 17 years	6	12.8	38	15.9	0.2430
	> 18 years	39	83.0	169	70.7	
	> 19 years	0	0	10	4.2	
	> 20 years	2	4.3	22	9.2	
Is there a maximum age to donate blood?	yes	30	63.8	161	67.4	0.7795
	no	5	10.6	28	11.7	
	I do not know	12	25.5	50	20.9	
What is the minimum weight requirement to donate blood?	> 50 Kg	24	51.1	179	74.9	0.0098 ^b
	> 60 Kg	12	25.5	31	13	
	> 70 Kg	0	0	1	0.4	
	I do not know	11	23.4	28	11.7	
What is the time interval between two blood donations?	4 weeks	7	14.9	54	22.6	0.3098
	8 weeks	26	55.3	99	41.4	
	6 months	9	19.1	47	19.7	
	1 year	1	2.1	2	0.8	
	I do not know	4	8.5	37	15.5	
Who can donate blood?	men	29	61.7	157	65.7	0.8175
	women	2	4.3	7	2.9	
	both	16	34	75	31.4	
Can pregnant woman donate blood?	yes	3	6.4	14	5.9	0.7886
	no	33	70.2	179	74.9	
	I do not know	11	23.4	46	19.2	
Can women who are breastfeeding donate blood?	yes	5	10.6	36	15	0.4425
	no	22	46.8	123	51.5	
	I do not know	20	42.6	80	33.5	
Can smokers donate blood?	yes	25	53.2	106	44.4	0.4124
	no	15	31.9	101	42.3	
	I do not know	7	14.9	32	13.3	
Can a person with chronic disease, such as diabetes and high blood pressure, donate blood?	yes	13	27.7	57	23.8	0.8320
	no	23	48.9	127	53.1	
	I do not know	11	23.4	55	23	
Can a person with cancer donate blood?	yes	4	8.5	5	2.1	0.0564
	no	32	68.1	185	77.4	
	I do not know	11	23.4	49	20.5	
If a donor has a fever on the day of donation, can he donate blood?	yes	3	6.4	20	8.4	0.8538
	no	34	72.3	174	72.8	
	I do not know	10	21.3	45	18.8	

Table S1. Responses of medical sciences students to the knowledge, attitude, and practice questions according to the blood donation (continued).

Questions	Answers	Donating blood (n = 47)		Non-donating blood (n = 239)		p-value
		n	%	n	%	
Can diseases be transmitted through blood donation?	yes	44	93.6	232	97.1	0.3470
	no	2	4.3	3	1.3	
	I do not know	1	2.1	4	1.7	
Can a person donate blood if he/she has any infectious disease, such as AIDS, hepatitis B and C, syphilis, and malaria?	yes	0	0	4	1.7	0.6056
	no	46	97.7	232	97.1	
	I do not know	1	2.1	3	1.3	
Can blood donation lead to anemia?	yes	4	8.5	20	8.4	0.8038
	no	25	53.2	139	58.2	
	maybe	18	38.3	80	33.5	
How long is the duration of blood donation?	< 20 minutes	36	76.6	84	35.1	0.0000 ^b
	20 - 60 minutes	6	12.8	115	48.1	
	I do not know	5	10.6	40	16.7	
How much blood should be withdrawn for a single blood unit?	< 500 mL	16	34	102	42.7	0.1132
	500 - 1,000 mL	22	46.8	69	28.9	
	no set amount	1	2.1	9	3.8	
	I do not know	8	17	59	24.7	
Do you require a fatty meal after donation?	yes	17	36.2	75	31.4	0.0749
	no	25	53.2	102	42.7	
	I do not know	5	10.6	62	25.9	
Does blood donation affect weight?	reduce weight	5	10.6	36	15.1	0.5361
	no effect	34	72.3	153	64	
	I do not know	8	17	50	20.9	
In general, do you think blood transfusion is harmful for the health?	yes	2	4.3	7	2.9	0.6574
	no	43	91.5	214	89.5	
	I do not know	2	4.3	18	7.5	
Have you ever needed a blood transfusion?	yes	4	8.5	14	5.9	0.7218
	no	43	91.5	225	94.1	
Are you going to accept blood in case you need it?	yes	43	91.5	204	85.4	0.3747
	no	4	8.5	35	14.6	

a significant ($p < 0.05$).b highly significant ($p < 0.01$).