

ORIGINAL ARTICLE

Influence of Gender and Previous Blood Donation Status on Attitude Toward Blood Donation: a Cross-Sectional Study

Amr J. Halawani

Department of Clinical Laboratory Sciences, Faculty of Applied Medical Sciences, Umm Al-Qura University, Makkah, Saudi Arabia

SUMMARY

Background: Blood supply shortage may affect the health of patients who are transfusion-dependent. Consequently, blood donation plays an important role in the community as it can provide sufficient blood supply at blood bank centers. Medical sciences students can help promote blood donation. The current study aimed to assess the knowledge on, attitude toward, and barriers on blood donation among medical sciences students at the Faculty of Applied Medical Sciences of Jazan University, Saudi Arabia.

Methods: An online questionnaire with 23 knowledge and attitude questions was established using Google Forms. Statistical analysis was performed based on gender and blood donation status (never donated, unable to donate, and donated blood).

Results: In total, 601 participants from six different departments responded to the questionnaire. Interestingly, female students had a higher rate of accurate responses toward the knowledge and attitude questions than male students ($p < 0.01$). Furthermore, students who previously donated had a higher rate of accurate responses to the questions than those who were not able to or never donated blood ($p < 0.01$).

Conclusions: The questionnaire was designed to assess the general knowledge and attitude of medical sciences students and barriers on blood donation. Female gender and a history of blood donation had a significant impact on responses. Therefore, more efforts are required to educate students regarding the importance of blood donation among patients who are transfusion-dependent.

(Clin. Lab. 2024;70:xx-xx. DOI: 10.7754/Clin.Lab.2023.231209)

Correspondence:

Amr J. Halawani
Department of Clinical Laboratory Sciences
Faculty of Applied Medical Sciences
Umm Al-Qura University
Makkah
Saudi Arabia
Email: ajjhalawani@uqu.edu.sa

Supplementary Data

Table S1. Responses to the knowledge and attitude questions according to gender and donation status.

Questions	Answers	Females	Males	p-value	Never donated	Unable to donate	Already donated	p-value
		329 (54.7%)	272 (45.3%)		207 (34.4%)	225 (37.5%)	169 (28.1%)	
Do you know your blood group?	yes	242 (73.56%)	255 (93.75%)	< 0.01 ^b	150 (72.46%)	181 (80.44%)	166 (98.22%)	< 0.01 ^b
	no	87 (26.44%)	17 (6.25%)		57 (27.54%)	44 (19.56%)	3 (1.78%)	
What is the youngest age to donate blood?	> 17 years	50 (15.20%)	35 (12.87%)	< 0.01 ^b	32 (15.46%)	25 (11.11%)	28 (16.57%)	< 0.01 ^b
	> 18 years	171 (5.17%)	178 (65.44%)		109 (52.66%)	122 (54.22%)	118 (69.82%)	
	> 19 years	22 (6.69%)	13 (4.78%)		15 (5.51%)	14 (6.22%)	6 (3.55%)	
	> 20 years	86 (26.14%)	46 (16.91%)		51 (24.64%)	64 (28.44%)	17 (10.06%)	
Is there a maximum age to donate blood?	Yes	189 (57.45%)	132 (48.53%)	0.089	102 (49.28%)	123 (54.67%)	96 (56.80%)	0.383
	No	38 (11.55%)	40 (14.71%)		30 (14.49%)	32 (14.22%)	16 (9.47%)	
	I do not know	102 (31.00%)	100 (36.76%)		75 (36.23%)	70 (31.11%)	57 (33.73%)	
What is the minimum weight requirement to donate blood?	> 0 kg	209 (63.53%)	157 (57.72%)	0.487	106 (51.21%)	152 (67.56%)	108 (63.91%)	< 0.01 ^b
	> 60 kg	52 (15.81%)	54 (19.85%)		35 (16.91%)	36 (16.00%)	35 (20.71%)	
	> 70 kg	2 (0.61%)	2 (0.74%)		2 (0.97%)	2 (0.89%)	0 (0.00%)	
	I do not know	66 (20.06%)	59 (21.69%)		64 (30.92%)	35 (15.56%)	26 (15.38%)	
What is the time interval between two blood donations?	4 weeks	61 (18.54%)	42 (15.44%)	< 0.01 ^b	38 (18.36%)	40 (17.78%)	0 (0.00%)	< 0.01 ^b
	8 weeks	99 (30.09%)	94 (34.56%)		47 (22.71%)	70 (31.31%)	25 (14.79%)	
	6 months	85 (25.84%)	99 (36.40%)		59 (28.50%)	63 (28.00%)	76 (44.97%)	
	1 year	5 (1.52%)	0 (0.00%)		3 (1.45%)	2 (0.89%)	62 (36.69%)	
	I do not know	79 (24.01%)	37 (13.60%)		60 (28.99%)	50 (22.22%)	6 (3.55%)	
Who can donate blood?	Men	194 (58.97%)	189 (69.49%)	< 0.05 ^a	126 (60.87%)	146 (64.89%)	111 (65.68%)	0.470
	Women	5 (1.52%)	1 (0.37%)		4 (1.93%)	1 (0.44%)	1 (0.59%)	
	Both	130 (39.51%)	82 (30.15%)		77 (37.20%)	78 (34.67%)	57 (33.73%)	
Can pregnant woman donate blood?	Yes	5 (1.52%)	1 (0.37%)	0.368	2 (0.97%)	4 (1.78%)	0 (0.00%)	0.215
	No	259 (78.72%)	217 (79.78%)		163 (78.74%)	171 (76.00%)	142 (84.02%)	
	I do not know	65 (19.76%)	54 (19.85%)		42 (20.29%)	50 (22.22%)	27 (15.98%)	

Table S1. Responses to the knowledge and attitude questions according to gender and donation status (continued).

Questions	Answers	Females	Males	p-value	Never donated	Unable to donate	Already donated	p-value
		329 (54.7%)	272 (45.3%)		207 (34.4%)	225 (37.5%)	169 (28.1%)	
Can women who are breastfeeding donate blood?	Yes	30 (9.12%)	28 (10.29%)	0.822	18 (8.70%)	24 (10.67%)	16 (9.47%)	< 0.05 ^a
	No	185 (56.23%)	155 (56.99%)		123 (59.42%)	109 (48.44%)	108 (63.91%)	
	I do not know	114 (34.65%)	89 (32.72%)		66 (31.88%)	92 (40.89%)	45 (26.63%)	
Can smokers donate blood?	Yes	99 (30.09%)	189 (69.49%)	< 0.01 ^b	85 (41.06%)	89 (39.56%)	114 (67.46%)	< 0.01 ^b
	No	132 (40.12%)	50 (18.38%)		69 (33.33%)	83 (36.89%)	30 (17.75%)	
	I do not know	98 (29.79%)	33 (12.13%)		53 (25.60%)	53 (23.56%)	25 (14.79%)	
Can a person with chronic disease, such as diabetes and high blood pressure, donate blood?	Yes	45 (13.68%)	64 (23.52%)	< 0.01 ^b	30 (14.49%)	43 (19.11%)	36 (21.30%)	0.243
	No	215 (65.35%)	150 (55.15%)		125 (60.39%)	136 (60.44%)	104 (61.54%)	
	I do not know	69 (20.97%)	58 (21.32%)		52 (25.12%)	46 (20.44%)	29 (17.16%)	
Can a person with cancer donate blood?	Yes	4 (1.22%)	4 (1.47%)	0.0347	1 (0.48%)	5 (2.22%)	2 (1.18%)	0.224
	No	266 (80.85%)	231 (84.93%)		168 (81.16%)	182 (80.89%)	147 (86.98%)	
	I do not know	59 (17.93%)	37 (13.60%)		38 (18.36%)	38 (16.89%)	20 (11.83%)	
If a donor has a fever on the day of donation, can he donate blood?	Yes	23 (6.99%)	34 (12.50%)	0.070	17 (8.21%)	11 (4.89%)	29 (17.16%)	< 0.01 ^b
	No	211 (64.13%)	162 (59.56%)		124 (59.90%)	148 (65.78%)	101 (59.76%)	
	I do not know	95 (28.88%)	76 (27.94%)		66 (31.88%)	66 (29.33%)	39 (23.08%)	
Can diseases be transmitted through blood donation?	Yes	317 (96.35%)	258 (94.85%)	0.089	198 (95.65%)	215 (95.56%)	162 (95.86%)	< 0.05 ^a
	No	3 (0.91%)	9 (3.31%)		8 (3.86%)	1 (0.44%)	3 (1.78%)	
	I do not know	9 (2.74%)	5 (1.84%)		1 (0.48%)	9 (4.00%)	4 (2.37%)	
Can a person donate blood if he/she has any infectious disease, such as AIDS, hepatitis B and C, syphilis, and malaria?	Yes	3 (0.91%)	8 (2.94%)	0.143	3 (1.45%)	1 (0.44%)	7 (4.14%)	0.065
	No	320 (97.26%)	261 (95.96%)		202 (97.58%)	219 (97.33%)	160 (94.67%)	
	I do not know	6 (1.82%)	3 (1.10%)		2 (0.97%)	5 (2.22%)	2 (1.18%)	
Can blood donation lead to anemia?	Yes	18 (5.47%)	14 (5.15%)	0.269	16 (7.73%)	10 (4.44%)	6 (3.55%)	< 0.01 ^b
	No	192 (58.36%)	176 (64.71%)		115 (55.56%)	127 (56.44%)	126 (74.56%)	
	Maybe	119 (36.67%)	82 (30.15%)		76 (36.71%)	88 (39.11%)	37 (21.89%)	
How long is the duration of blood donation?	< 20 minutes	125 (37.99%)	140 (51.47%)	< 0.01 ^b	80 (38.65%)	91 (40.44%)	94 (55.62%)	< 0.01 ^b
	20 - 60 minutes	109 (33.13%)	91 (33.46%)		67 (32.37%)	76 (33.78%)	57 (33.73%)	
	I do not know	95 (28.88%)	41 (15.07%)		60 (28.99%)	58 (25.78%)	18 (10.65%)	

Table S1. Responses to the knowledge and attitude questions according to gender and donation status (continued).

Questions	Answers	Females	Males	p-value	Never donated	Unable to donate	Already donated	p-value
		329 (54.7%)	272 (45.3%)		207 (34.4%)	225 (37.5%)	169 (28.1%)	
How much blood should be withdrawn for a single blood unit?	< 500 mL	67 (20.36%)	100 (36.76%)	< 0.01 ^b	32 (15.46%)	49 (21.78%)	86 (50.89%)	< 0.01 ^b
	500 - 1,000 mL	90 (27.36%)	104 (38.24%)		62 (29.95%)	73 (32.44%)	59 (34.91%)	
	No set amount	47 (14.29%)	24 (8.82%)		33 (15.94%)	25 (11.11%)	11 (6.51%)	
	I do not know	125 (37.99%)	44 (16.18%)		80 (38.65%)	78 (34.67%)	13 (7.69%)	
Do you require a fatty meal after donation?	Yes	88 (26.75%)	74 (27.21%)	0.183	68 (32.85%)	51 (22.67%)	43 (25.44%)	< 0.01 ^b
	No	166 (50.46%)	152 (55.88%)		84 (40.58%)	117 (52.00%)	117 (69.23%)	
	I do not know	75 (22.80%)	46 (16.91%)		55 (26.57%)	57 (25.33%)	9 (5.33%)	
Does blood donation affect weight?	Reduce weight	26 (7.90%)	56 (20.59%)	< 0.01 ^b	35 (16.91%)	20 (8.89%)	27 (15.98%)	< 0.01 ^b
	No effect	249 (75.68%)	169 (62.13%)		125 (60.39%)	173 (76.89%)	120 (71.01%)	
	I do not know	54 (16.41%)	47 (17.28%)		47 (22.71%)	20 (8.89%)	22 (13.02%)	
In general, do you think blood transfusion is harmful for the health?	Yes	10 (3.04%)	11 (4.04%)	0.588	12 (5.80%)	6 (2.67%)	3 (1.78%)	< 0.01 ^b
	No	301 (91.49%)	250 (91.91%)		179 (86.47%)	208 (92.44%)	164 (97.04%)	
	I do not know	18 (5.47%)	11 (4.04%)		16 (7.73%)	11 (4.89%)	2 (1.18%)	
Have you ever needed a blood transfusion?	Yes	21 (6.38%)	21 (7.72%)	0.522	11 (5.31%)	26 (11.56%)	5 (2.96%)	< 0.01 ^b
	No	308 (93.62%)	251 (92.28%)		196 (94.69%)	199 (88.44%)	164 (97.04%)	
Are you going to accept blood in case you need it?	Yes	278 (84.50%)	242 (88.97%)	0.110	164 (79.23%)	198 (88.00%)	147 (86.98%)	0.415
	No	51 (15.50%)	30 (11.03%)		32 (15.46%)	27 (12.00%)	22 (13.02%)	
Have you ever donated blood?	Yes	27 (8.21%)	142 (52.21%)	< 0.01 ^b	0 (0.00%)	0 (0.00%)	169 (100%)	< 0.01 ^b
	No	302 (91.79%)	130 (47.79%)		207 (100%)	225 (100%)	0 (0.00%)	

^a - significant.^b - highly significant.