

Knowledge and Attitude towards Voluntary blood donation among the Nursing student in a Selected University in UAE.

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Abstract Introduction

Blood is the most essential component of the human body is important for every activity and is regarded as the gift of life. Evidence indicates that there is no substitute for blood, furthermore, scientific reports have revealed that every 3 seconds a blood transfusion is required. Blood transfusion saves lives; however, obtaining safe blood at the right time is challenging these days.

Objectives of the study

- Assess the Knowledge of blood donation.
- Assess the Attitude towards voluntary blood donation.
- Correlate the Knowledge and Attitude towards voluntary blood donation.
- Associate selected demographic variables with Knowledge and Attitude towards voluntary blood donation.

Methods

A Quantitative research approach with a cross sectional descriptive survey design was used to assess the knowledge and attitude towards voluntary blood donation, UAE among 175 nursing students studying in private medical university who were selected using a purposive sampling technique.

Results

Only 37.7 % of the Nursing students were found to have good knowledge on blood donation and 24.0 % of the Nursing students had a positive attitude towards voluntary blood donation. A strong correlation was found to exist between students' levels of knowledge on blood donation and their attitudes towards voluntary blood donation.

A statistically significant association was found between Religion & Knowledge on blood donation at $P < 0.05$; Exposure to information on blood donation and both knowledge and attitude levels at $p < 0.01$ level; Knowledge of blood group on both knowledge and attitude levels at $p < 0.001$ level and Voluntary blood donation practice and both knowledge and attitude levels at $P < 0.05$ level.

Conclusion

This study found poor knowledge levels (62.3%) and negative attitudes (76%) towards blood donation among the Nursing students. The need of the hour is to create awareness to enhance safe blood transfusion through voluntary blood donation.



Introduction

Globally total safe blood supply is obtained from blood donors i.e., voluntary donors, replacement donors, and paid donors. Voluntary blood donors are the cornerstone of a safe and adequate supply of blood and blood products. Blood donation can save millions of lives and young people are the hope and future of a safe blood supply in the world. Voluntary donors are the only source of a safe blood supply in the world. Many efforts have been made to achieve this reality, however, both developed and developing countries have problems with the non-remunerated blood donation system¹.

The World Health Organization (WHO) has adopted a policy aimed at 100% voluntary non-remunerated donor blood procurement by the year 2020². The donation of blood from young students is preferred because the risk of acquiring blood-transmitted diseases from blood donated by the students is less than in other groups. To maintain an adequate safe blood supply at both a national and international level it is essential to understand opinions and barriers to donation so that health organizations and government bodies know how to achieve an adequate blood supply.

In the United Arab Emirates (UAE), a rapidly advancing healthcare landscape, understanding the knowledge and attitudes towards voluntary blood donation among nursing students emerges as a critical inquiry. Nursing students represent the future cadre of healthcare professionals who will inevitably encounter situations involving blood donation throughout their careers³. Thus, their perspectives, knowledge levels, and behaviors regarding voluntary blood donation hold significant implications for fostering a robust donation culture within the UAE. To maintain an adequate safe blood supply at both a national and international level it is essential to understand opinions and barriers to donation so that health organizations and government bodies know how to achieve an adequate blood supply.

Despite the recognized importance of voluntary blood donation, a notable gap exists in the literature concerning the specific attitudes and knowledge levels among nursing students in the UAE. This gap underscores the need for empirical investigation into the factors shaping nursing students' perceptions toward blood donation, including cultural, religious, educational, and societal influences. Exploring these factors can provide valuable insights into the barriers and facilitators to blood donation among nursing students, ultimately informing targeted strategies to promote a culture of voluntary blood donation within both the nursing community and the broader society⁴.

Therefore, this study is undertaken to determine the knowledge and attitude towards voluntary blood donation among the university nursing students in UAE.

Aim of the Study

The study aims to assess knowledge and attitude towards voluntary blood donation among nursing students in a selected university, in UAE.

Objectives of the Study

- Assess the Knowledge of blood donation.
- Assess the Attitude towards voluntary blood donation.
- Correlate the Knowledge and Attitude towards voluntary blood donation.
- Associate selected demographic variables with Knowledge and Attitude toward voluntary blood donation.



Methodology

A Quantitative research approach with a cross sectional descriptive survey design was used to assess the knowledge and attitude towards voluntary blood donation, UAE among 175 nursing students studying in private medical university who were selected using a purposive sampling technique. An online survey was conducted, and data was collected after obtaining an informed consent.

The study instrument consisted of structured questionnaires to assess the demographic profile and knowledge on blood donation. An opinionnaire was developed to assess their attitude towards voluntary blood donation on a five point - likert scale Strongly agree, Agree, Not Sure, Strongly Disagree and Disagree.

The reliability of the tools was assessed through a pilot study. Cronbach’s alpha value for the reliability (internal consistency) for the Knowledge questionnaire on blood donation was 0.893 and Attitude questionnaire towards voluntary blood donation was 0.901.

Table 1 : Sociodemographic characteristics of the Nursing students.

n = 175		
	n	%
Age (Years)		
Less than 20	48	27.4
20 - < 30	123	70.3
30 - < 40	2	1.1
40 or more	2	1.1
Gender		
Male	47	26.9
Female	128	73.1
Nationality		
UAE	27	15.4
Asian	77	44.0
GCC	14	8.0
Other	57	32.6
Religion		
Islam	109	62.3



Hindu	47	26.9
Christian	8	4.6
Other	11	6.3
Study Year		
First	61	34.9
Second	36	20.6
Third	42	24.0
Fourth	36	20.6
Exposure to information on Blood Donation		
No	38	21.7
Yes	137	78.3
Do you know your blood group?		
No	39	22.3
Yes	136	77.7
Voluntary Blood Donation Practice		
Yes	88	50.3
No	50	28.6
Tried but failed on health grounds	37	21.1

Table 2 : Knowledge on Blood Donation among Nursing students

n = 175				
Knowledge on Blood Donation	Incorrect		Correct	
	n	%	n	%
Amount of blood drawn for each donation	112	64.0	63	36.0
Age limit for blood donation	81	46.3	94	53.7
Minimum weight of blood donors	110	62.9	65	37.1
Interval between two successive donations	81	46.3	94	53.7
Duration for donated blood volume replacement	86	49.1	89	50.9

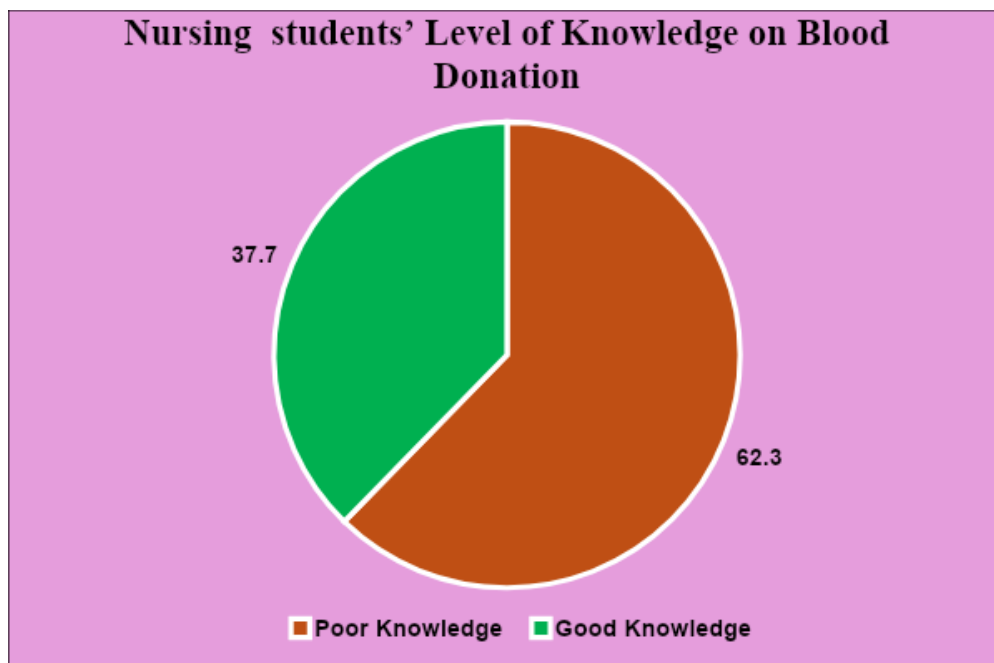


Figure 1 Percentage Distribution of the nursing students' Level of Knowledge on Blood Donation

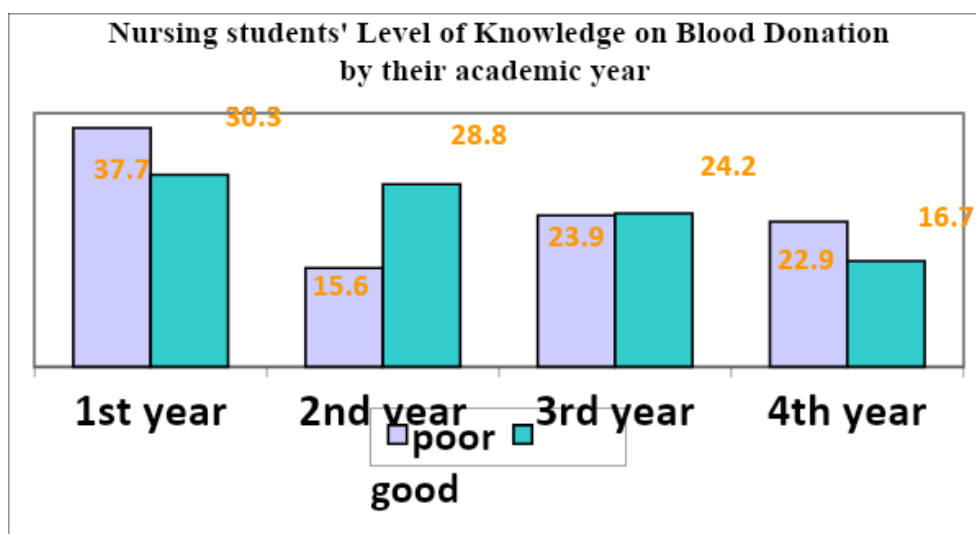


Figure 2 Percentage Distribution of the nursing students' Level of Knowledge on Blood Donation By their academic year

Table 3 : Distribution of Nursing students Attitude towards voluntary blood donation

n =										
175										
Attitude towards voluntary blood donation	Strongly Disagree		Disagree		Unsure		Agree		Strongly Agree	
	n	%	n	%	n	%	n	%	n	%
Blood donation is a social responsibility	1	0.6	7	4.0	28	16.0	54	30.9	85	48.6
Blood donation is important	1	0.6	2	1.1	13	7.4	61	34.9	98	56.0
Donating blood can affect my health	35	20.0	48	27.4	51	29.1	30	17.1	11	6.3
I am afraid of the needle prick during blood donation	43	24.6	41	23.4	32	18.3	37	21.1	22	12.6
I am worried about possible infection during blood donation	32	18.3	48	27.4	39	22.3	43	24.6	13	7.4
Blood lost during blood donation is a permanent loss	79	45.1	43	24.6	28	16.0	14	8.0	11	6.3
I have no time for blood donation	32	18.3	47	26.9	53	30.3	34	19.4	9	5.1
My parents do not support me for donating blood	68	38.9	51	29.1	25	14.3	19	10.9	12	6.9
I have no specific reason for not donating blood	52	29.7	21	12.0	41	23.4	41	23.4	20	11.4
No one has ever asked to donate blood	53	30.3	24	13.7	32	18.3	52	29.7	14	8.0
Unaware of collection facility	55	31.4	22	12.6	39	22.3	40	22.9	19	10.9
Apprehensive about feeling weak after donation	61	34.9	26	14.9	33	18.9	42	24.0	13	7.4

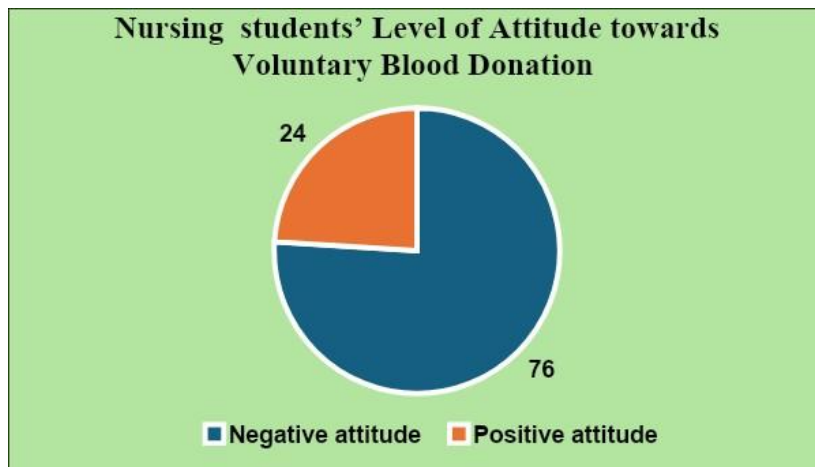


Figure 3 Percentage Distribution of the Nursing students' Level of Attitude towards Voluntary Blood Donation

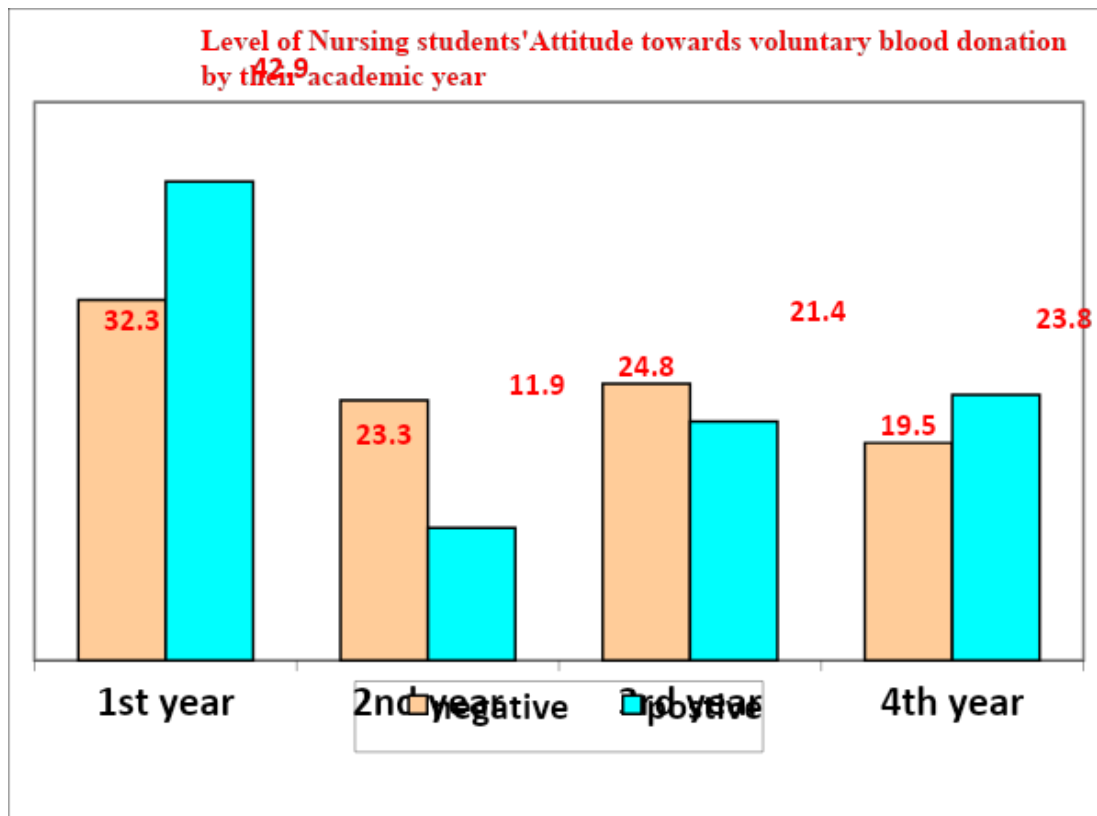


Figure 4 Percentage Distribution Nursing students' Level of Attitude towards Voluntary Blood Donation



Table 4: Correlation between the Nursing Students’ Knowledge and Attitude towards Voluntary blood donation

n=175

	Negative attitude (n=133)		Positive attitude (n=42)		Chi – Square	
	n	%	n	%	X ²	P
Total knowledge level						
Poor Knowledge	97	72.9	12	28.6		
Good Knowledge	36	27.1	30	71.4	26.740	<0.001* *

Table 4 describes a strong correlation between students' level of knowledge ON blood donation and their attitude . Students with good knowledge are more likely to have a positive attitude towards voluntary blood donation, while those with poor knowledge are more likely to exhibit a negative attitude.

Table 5 Association between the socio-demographic variables of the nursing students with knowledge and attitude towards voluntary blood donation n = 175

Variables	Students’ Knowledge						Students’ Attitude					
	Poor Knowledge (n=109)		Good Knowledge (n=66)		Chi – Square / Fisher’s exact test		Negative attitude (n=133)		Positive attitude (n=42)		Chi – Square Fisher’s exacttest	
	n	%	n	%	X ²	P	n	%	n	%	X ²	P
Age (Years)												
Less than20	31	28.4	17	25.8			35	26.3	13	31.0		
20 - < 30	75	68.8	48	72.7			95	71.4	28	66.7		
30 - < 40	1	0.9	1	1.5			2	1.5	0	0.0		
40 ormore	2	1.8	0	0.0	1.537	0.674	1	0.8	1	2.4	1.726	0.631
Gender												
Male	27	24.8	20	30.3			38	28.6	9	21.4		
Female	82	75.2	46	69.7	0.641	0.424	95	71.4	33	78.6	0.829	0.363
Nationality												



UAE	17	15.6	10	15.2			19	14.3	8	19.0		
Asian	52	47.7	25	37.9			57	42.9	20	47.6		
GCC	6	5.5	8	12.1			11	8.3	3	7.1		
Other	34	31.2	23	34.8	3.326	0.344	46	34.6	11	26.2	1.375	0.711
Religion												
Islam	70	64.2	39	59.1			80	60.2	29	69.0		
Hindu	29	26.6	18	27.3			36	27.1	11	26.2		
Christian	7	6.4	1	1.5			6	4.5	2	4.8		
Other	3	2.8	8	12.1	8.086	0.044*	11	8.3	0	0.0	3.893	0.273
StudyYear												
First	41	37.6	20	30.3			43	32.3	18	42.9		
Second	17	15.6	19	28.8			31	23.3	5	11.9		
Third	26	23.9	16	24.2			33	24.8	9	21.4		
Fourth	25	22.9	11	16.7	4.896	0.180	26	19.5	10	23.8	3.466	0.325
Exposure to information on Blood Donation												
No	31	28.4	7	10.6			22	16.5	16	38.1		
Yes	78	71.6	59	89.4	7.692	0.006*	111	83.5	26	61.9	8.723	0.003*
Do you know your blood												



group?												
No	29	26.6	10	15.2			21	15.8	18	42.9		
Yes	80	73.4	56	84.8	3.114	0.078	112	84.2	24	57.1	13.503	<0.001**
Voluntary Blood Donation Practice												
Yes	64	58.7	24	36.4			66	49.6	22	52.4		
No	27	24.8	23	34.8			36	27.1	14	33.3		
Tried but failed on health grounds	18	16.5	19	28.8	8.475	0.014*	31	23.3	6	14.3	1.716	0.424

From table 5, it is understood that a statistically significant association is found to exist between Religion & Knowledge on blood donation at $P < 0.05$; Exposure to information on blood donation and both knowledge and attitude levels at $p < 0.01$ level; Knowledge of blood group on both knowledge and attitude levels at $p < 0.001$ level and Voluntary blood donation practice and both knowledge and attitude levels at $P < 0.05$ level.

Discussion

In the present study 62.3% of the nursing students had poor knowledge on blood donation and only 37.7% had good knowledge . These findings are similar to a study carried out by Ezeldain et al in which 37.7% of the nursing students' had satisfactory knowledge on blood donation. This result was found to be lower than what was found by Mulatu et al who assessed the knowledge, attitude and practice of blood donation among residents of Aman Sub-City, Southwest Ethiopia in which it was identified that 76.0% of total respondents had good knowledge while 14.0% only had poor knowledge 24 . A recent study done by Melku. et al found that 51.6% of undergraduate health science students had inadequate knowledge⁵ .

Concerning the nursing students' attitude in the present study , majority (76.0%) of them had negative attitude about readiness to donate in the future. This result was in contrary to the study findings of Ezeldain et al who mentioned that more than three quarters of the nursing students had positive attitude about encouraging the volunteer to donate blood ⁵ . Andsoy et al., also found that 40.0% of Turkish nursing students stated willing to donate blood ⁶ . A recent study done by Alsalmi et al., reported that the majority of the health professional students in Saudi Arabia had a positive attitude regarding voluntary blood donation ⁷ . Melku. et al., found that 79.2% of undergraduate health science students had positive attitude regarding blood donation⁸ .



The finding of the current study suggests a strong association between students' levels of knowledge on blood donation and their attitudes towards voluntary blood donation implying that students with good knowledge are more likely to have a positive attitude towards voluntary blood donation, while those with poor knowledge are more likely to exhibit a negative attitude. These findings are in agreement with the study findings of Ezeldain et al., which identified a statistically significant difference between the nursing students' knowledge and their attitude toward blood donation⁵. This result was also in line with the findings of a study which presented a statistical significant difference between medical students' knowledge and their attitude towards blood donation⁸.

In the present study there was no statistically significant association between the nursing students age and level of knowledge on blood donation however these finding were in contrary to the findings of a study by Verma et al., who showed that medical students >20 years of age had significantly more knowledge on blood donation ($P < 0.001$) when compared with the students in the age group of 17–20 years⁸.

Also, no significant association was found between the nursing students' level of knowledge on blood donation and their gender and residence. Similar findings was shared in a recent study on undergraduate health science students⁹. So also gender failed to prove a significant association with knowledge on blood donation¹⁰. However, in a study on medical students it was reported that the female medical students when compared with male had more knowledge and good attitude voluntary blood donation⁸.

Regarding the nursing students' knowledge levels and their academic years there were no statistically significance differences this finding is in contrary to the findings in a study which revealed that the 3rd year students were more knowledgeable on blood donation than the other academic year students which was found to be statistically significant also, a recent study showed an increase in the knowledge level on blood donation over progression in the academic year⁷.

Statistically significant difference was not present between the nursing students' attitude and their age. This finding was inconsistent with the findings in another study which revealed that age had a significant association with attitude towards blood donation wherein those ≥ 21 years had a positive attitude towards blood donation¹⁰. Also, it was found that that medical students in the age group >20 years had significantly good attitude towards blood donation ($p < 0.001$) when compared to the students in the age group of 17–20 years⁸.

Conclusion

This study found poor knowledge levels (62.3%) and negative attitudes (76%) towards blood donation among the Nursing students. The need of the hour is to create awareness to enhance safe blood transfusion through voluntary bold donation.

Ethical Considerations

The study was conducted after obtaining Institutional Ethical Clearance from the IRB



Committee ,Gulf Medical University and Informed Consent was obtained from the nursing students prior to data collection . Anonymity and confidentiality was maintained.

Conflict of Interest

There is no conflict of interest.

Contribution of Authors

The first three authors contributed to the development of the proposal and carried out the data collection, the fourth and fifth authors supervised the entire research activity .

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