Research Article **ISSN: 2581-8015**

International Journal of Nursing and Healthcare Research

Journal home page: www.ijnhr.com

https://doi.org/10.36673/IJNHR.2020.v04.i02.A10

KNOWLEDGE AND ATTITUDE ON BLOOD DONATION AMONG DEGREE STUDENTS OF ERITREAN INSTITUTION OF TECHNOLOGY: A CROSS-SECTIONAL STUDY

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ABSTRACT

Background: Despite, the fact that there is an increased blood donation from voluntary unpaid donors in recent years, there is shortage of active blood donors to meet the increased demands of blood. **Objectives:** Thus, the objective of the study is to assess the knowledge and attitude of blood donation among degree students of Eritrean institution technology (EIT). **Methodology:** A descriptive cross-sectional study was conducted at Eritrean Institute of Technology from March to June 2018. A total of 1951 students, in their 2nd and above academic years, were registered to participate voluntarily and anonymously. However, data was collected from 338 randomly selected students who had fulfilled the inclusion criteria using self- administered questionnaire. Pearson co-efficient correlation and Chi-square test were used to compare mean differences and proportions between the groups, as appropriate. Data analysis was undertaken using SPSS version 20. **Results:** Out of the total participants (n=338), more than half (55.7%) had moderate knowledge whereas equivalent number (57.7%) of participants had unfavorable attitude. In addition, the level of knowledge was significantly associated with sex (*p*-0.025), previous blood donation (*p*-0.018) and source of information from mass-media (*p*-0.001) and peers (*p*-0.027). On the other hand, significant association was observed between the levels of attitude and frequency of blood donation (*p*-0.003). However, there was no significant correlation between the level of knowledge and attitude on blood donation (r-0.19). **Conclusion:** The result of this study shows that, majority of the participants had unfavorable attitude, nevertheless, they had good knowledge towards blood donation.

KEYWORDS

Knowledge, Attitude, Blood donation, College students and EIT.

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INTRODUCTION

The need for blood and blood products is rising in all parts of the world. Uncontrolled bleeding accounts form or Ethan 468, 000 deaths per year. In low-income countries where diagnostic facilities and treatment option sare limited, the majority of

transfusion sare prescribed for the treatment of complications during pregnancy and child birth, the management of severe childhood anemia, trauma and congenital blood disorders[1].

World Health Organization (WHO) reported that 38 percent of voluntarily donated blood comes from those young people aged less than 25 years old. Young student sare healthy, active, dynamic, resourceful and receptive and they constitute a greater proportion of the population so that those young student sneeden couragement and motivation to donate blood voluntarily[2]. Moreover, WHO recommends countries to focus on young people to achieve 100 percent on-remunerated voluntary blood donation by 2020. It also recommends should be self-sufficient in all blood products and that all blood donation should be voluntary, anonymous, and non-remunerated[3]. According to WHO one percent of the population is generally the minimum needed to meet the country's most basic requirements for blood[4].

It can be stated that both developed and developing countries have problems with the unpaid blood donation system. What encourages person to donate blood for free? What are the obstacles facinga person? And how can the blood centers ask the donors to return again? Answers to these questions make it possible for blood collection agencies to determine which people are expected to be new donors and enable making predictions of future donors[5].

The statistics from National Blood Transfusion Center (NBTC) of Eritrea, in 2016 revealed that a total of 6486 volunteer donors donated blood, from those donors, 4175 were males, while 2311 were females. Despite the fact that there is an increased blood donation from voluntary unpaid donors in recent years, there is shortage of active blood donors to meet the increased demands of blood however, there is no study conducted on knowledge and attitude on blood donation among on-medical college students in Eritrea. Therefore, the main goal of this study was to assess the level of knowledge and hastening the development of positive attitude on blood donation in the students and to comprehend the situation and find ways to enhance voluntary blood donation in the State of Eritrea. The first step to meet this goal was performing an objective, thorough and comprehensive assessment of knowledge and attitude on blood donation among the college students. Therefore, this study will serve as reference for giving campaigns, seminars and other appropriate measures by National Blood Transfusion Services (NBTS) and others who are concerned and for conducting further research. It also generates relevant information that could help to design appropriate do nation programs for this segment of population. In addition, this study will help in providing adequate blood supply in the blood bank.

Objectives

General objective

- To assess the knowledge and attitude on blood donation among degree students of EIT.

Specific objectives

- To assess the level of knowledge on blood donation among degree students of EIT.
- To assess the level of attitude on blood donation among degree students of EIT.
- Toassesstherelationshipbetweenthelevelofknowledgeandattitudeonblooddonationamongdegree students of EIT.
- To associate the level of knowledge and attitude on blood donation with selected socio demographic varia blessuchasage, sex, college, year of study, religion, previous blood donation, frequency of blood donation, to whom they have donated, blood type, source of information about blood donation and place of residence among degree students of EIT.

METHODOLOGY

Study design and setting

A cross-sectional design was used to conduct the study. The study was conducted in Eritrean Institute of Technology. The Institute is located in Mai-Nefhi, about 20km west of the capital city, Asmara. EIT has three colleges, namely: College of Engineering and Technology, College of Science and College of Education. The college of Engineering and Technology has 8 Bachelor Degree and 10 Diploma program. The college of Science has 7 Bachelor Degree, 2 Diploma program and 4 master's Degree program. There are 6 Bachelor Degree and 6

Diploma programs in the college of Education.

Study population

The study was carried out in four months' duration from March to June 2018. A total of 1951 degree students were registered in the second semester of 2017-2018 academic years. All second year degree students from the three colleges of EIT were included in the study.

Sample Size determination

Sample size is determined at 95% confidence interval and the margin of error is taken as 5%. The proportion of knowledge and attitude correlation was assumed as 50%. Therefore, the formula for the sample size determination is:

n1 =Z2 (pq)/e2.

Wheren1=calculated/estimated sample size

z= population normal standard deviation for 95% CI= 1.96

p= proportion will be assumed as 50%

q= 1-p

e= margin of error

n1= $(1.96)^2$ (0.5) (0.5)/ $(0.05)^2$

n1= 384.16 that is 384

N2= N1x (Total study population)/ (Total study population +N) Study population is1951

So N2= 384(1951/ (1951+384))

N2= 320.8 that is 321

N3= will be calculated by adding 5% of the N2 to compensate for the anticipated non respondent rate.

N3= N2 + (N2*0.05)

N3= 321 + (321*0.05)

N3= 338

Sample size was determined as 338. In this study the final number of respondents was 338 as there was no non respondent rate.

Sampling method

Out of 1951 total regular, second year and above degree students, m338 sample size was determined. Simpler and om sampling was used to select study participants from the three colleges of EIT in proportion to the respective college size. The participants were selected using multi stage proportionate sampling method. First, colleges were selected. Second, samples were allocated to each college based on size that is proportionate to the total number of each college, College of Engineering and Technology 114(33.7%), College of Science 139(41.1%) and College of Education 85(25.1%). Then samples were allocated to each department based on proportionate size. Finally, samples were allocated in each department in terms of year of study.

Data collection tools and techniques

The questionnaire divided into three parts. The first part (11-questions) was designed to record the general demographic data of participants. The second part comprised 25 questions to assess participants' knowledge towards blood donation. The last part of the questionnaire, participants were asked 10 questions related to their current attitude on blood donation. Time to complete the questionnaire through self-administration ranged from 30-40 minutes.

Variable measurement

Knowledge on blood donation

Knowledge scores were totaled from 25 questions, in which each correct answer of the item was assigned 1 mark and 0 otherwise. The actual scores computed for each participant were converted to percentages. Those who answered ≥75% of the questions were categorized as having adequate knowledge, 50%-74% were categorized as having moderate knowledge, and ≤50% were categorized as inadequate knowledge.

Attitude towards blood donation

In order to measure the attitude of the participants towards blood donation, 10 questions were used. Each item was responded using five-point Likert type (1= strongly agree, 2= agree, 3= no sure, 4= disagree, 5= strongly disagree). The composite attitude scores were giving an ideal minimum and maximum score of 10 and 50, respectively. Those who got ≥ 75% was considered as having favorable attitude, 50-74% were considered as having moderately favorable attitude, ≤ 50% were considered as having unfavorable attitude.

Data collection procedure

A formal written permission was obtained from the department of Nursing and Ministry of Health to conduct the research study on blood donation among the students in EIT and then a formal written consent was obtained from the study participants. A self-

administered questionnaire was distributed together required information. The data collected from the participants was kept confidential and was used only for the research purpose.

Validity and reliability

The English version questionnaire was reviewed by a three nursing experts and one statistician. Through this process, the face and content validity of the questionnaire was guaranteed. The composite Cronbach's alpha was 0.78.

Pretest

The questionnaire was pre-tested among thirty students of Asmara College of Health Sciences in 2018, to evaluate the clarity, ease in understanding, applicability and to estimate the time needed to complete the questionnaire before the study period. The pre-designed questions that were not easily understood by the participants were simplified.

Data analysis

Data analysis was done using SPPS-version 20. Descriptive analyses for the demographic data was done using frequency (percent), and mean (SD). Tables were used to provide an overall and comprehensible presentation and description of data. The internal consistency was assessed using Cronbach's alphas. The correlation between the knowledge and attitude was performed using Pearson co-efficient correlation and Chi-square test was used to assess the association of knowledge and attitude with the selected socio-demographic variables. A *p* value of less than or equal to0.05was considered as statistically significant.

Ethical consideration

This study was approved by Asmara College of Health Sciences Ethical Committee and further approval was attained from MOH. A formal letter was written from the department of nursing to the planning and research committee of MOH. And also formal permission was requested from EIT. A highly valued ethical issue was considered as students were informed with regard to the aim and implication of the study and were clearly to their full right or effuse or with draw to participate in the research study. Confidentiality of information was maintained including omitting personal identifiers such as name of participants throughout the data collection and the entire study period.

RESULTS

Socio-demographic characteristics of the participants

Out of the total participants, majority of the study participants 191(56.5%) were in the age group of 21-23. Of these, 202(59.8%) were males whereas 136(40.2%) were females. Moreover, majority of the participants 113(33.4%) and 139(41.2%) were, respectively, second year and from the college of engineering. Of the students, majority 222(65.7%) and 91(78.4%), respectively, had never previously donated blood and those who contribute, donate twice. However, out of the total, 110(94.8%) had donated blood voluntarily. The main sources of information were from peers and media which account 164(48.5%) (Table No.1).

Knowledge level on blood donation

Majority of the current study's participants, 236(69.8%) and 319(94.4%) had answered the desirable age (>18 years) and weight (45-50kg) for blood donation, respectively. Out of the total participants (n=338), 303(89.6%) knows that voluntary blood donation was the best source of blood donation (Table No.2).

The overall level of knowledge was evaluated by summing up the correct answers of each individual response together. The mean and standard deviation for the total knowledge responses, respectively, were 17.52 and 2.87. The majority (n=188) of the participants had scored 50-74% as having moderate knowledge and the remaining participants had scored ≥ 75% (n=135) and ≤ 50% (15) respectively, as having adequate knowledge and inadequate knowledge (Table No.3).

Attitude Level on blood donation

Out of the total participants (n=338), more than half 187(55.3%) had strongly agreed that blood donation is a social responsibility. Majority 275(81.4%) of the participants strongly believed that blood donation can save people's life (Table No.4).

The overall attitude of the participants on blood donation was evaluated by summing up the correct answers of student's statement. The mean and standard deviation for the total blood donation,

respectively, were 4.24 and 2.71. In this study; 48(14.2%), 95(28.1%), and 195(57.7) had stated their attitude, respectively, as favorable, moderate and unfavorable (Table No.5).

Association of the socio-demographic variables with the level of knowledge

From the selected socio-demographic variable only sex, previous blood donation, source of information from mass media and peers were found to have significant association with the level of knowledge with the *p*-value of 0.025, 0.018, 0.001 and 0.027 respectively. Age, college, year of study, religion, frequency of blood donation, to which they have donated, blood type and place of residence had no significant association with the level of knowledge (Table No.6).

Association of the socio-demographic variables with the level of attitude

From the selected socio-demographic variables only, college (education) and frequency of blood donation were found to have significant association with the level of attitude with *p*-value of 0.039 and 0.003, respectively. Age, sex, year of study, religion, previous blood donation, to which they have donated, sources of information, blood type and place of residence had no significant association with level of attitude (Table No.7).

Correlation between knowledge and attitude

The study result showed no correlation between the level of knowledge and attitude among the study participants as the r-values 0.188 (Table No.8).

DISCUSSION

Objective 1-Toassess the level of knowledge on blood donation among degree students of EIT

The study revealed that among 338 participants, 135(39.9%) had adequate knowledge and 188(55.7%) had moderately adequate knowledge and only 15(4.4%) participants had in adequate knowledge. "This was comparable with study conducted in Bhubaneswar city, India, where more than half of the participant shad adequate knowledge about blood donation but it was in comparable with the current study for those who got inadequate knowledge"[6]. This may be due to less information and awareness of the students on blood donation in which a clear simple and constant message must be delivered by using health education materials to the target group.

Majority of the current study's participants, 236(69.8%) and 319(94.4%) had answered the desirable age and weight for blood donation respectively and also from the total participants 303(89.6%) knows that voluntary blood donation was the best source of blood donation. These results were consistent with a study conducted in Karachi where 40% of the respondents answered that donors should be aged between 17-45 years. This was also similar with a study conducted in Bhubaneswar and Chennai, India which revealed that 326(81.7%) and 520(99.2%) respectively knew voluntary blood donation was the best source of blood[7,8].

Objective 2- To assess the level of attitude on blood donation among degree students of EIT

The study revealed that among 338 participants only 48(14.2%) had favorable attitude and only 95(28.1%) had moderately attitude and it also showed out of 338 study participants 195(57.7%) had unfavorable attitude on blood donation. This was consistent with a study conducted in Arsi and Adama University, Ethiopia where less than half of the student shad favorable attitude, but this was in consistent with a study conducted in Adis Abeba, Ethiopia which revealed that more than half of the adult respondents had favorable attitude"[2]. This low result of favorable attitude may be duet of ear of losing their consciousness and fear of something harmful might happen after donating blood as most of the participant were not sure whether they may lost consciousness or not after donating. Therefore, decreasing the perception that blood donation is harmful can lead to an increase in the pool of blood donors.

From the total participants of the current study more than half strongly agreed that blood donation is a social responsibility and majority also strongly believed that blood donation can save people's life and this was an encouraging trend in Eritrea that students tend to donate due to altruism and don't have to compel. This study was consistent with a study conducted in Bhubaneswar city, India where majority of the students reported that blood donation

was a sense of social responsibility and consistent with another similar study conducted in North India where almost all the respondents agreed that blood donation can savelives[4].

Objective 3- To correlate the level of knowledge and attitude on blood donation among degree student so EIT

There was no significant correlation between the level of knowledge and attitude on blood donation as then-value was 0.188. "This was consistent with study conducted in Thai, University where they found no significant correlation between knowledge and actual blood donation[9]." Therefore, this study rejected the alternative hypothesis but failed to reject the null hypothesis.

Objective 4

To assess the association between the level of knowledge and attitude on blood donation with the selected sociodemo graphic variables such as age, sex, college, year of study, religion, previous blood donation, frequency of blood donation, to whom they have donated, blood type, source of information about blood donation and place of residence among degree students of EIT.

Knowledge level

Was significantly associated with sex, previous blood donation, source of information about blood donation from mass media and peers with P-value of (0.025, 0.018, 0.001, 0.027) respectively but knowledge level was not significantly associated with: age, religion, college, year of study, frequency of blood donation, to whom they have donated, blood type and place of residence.

Female participant shad adequate knowledge than males "This was consistent with a study conducted in Ambo town, Ethiopia where female participant shad good knowledge as compared to malestudyparticipants[1]. "This may be due to females spent most of their time reading and had more exposure to mass media. Participants who had donated blood previously were more knowledge able than those who had never donated blood. "This was consistent with a study conducted in King Abdul-Aziz and Bhubaneswar city, India[5]." Therefore, the current result of the study implicates that proper knowledge of blood donation is an important factor for donating blood as more knowledge able subject stended to donate blood more than those of lower level of knowledge.

And majority of the current study participant's whose source of information was from mass media and peers had more adequate knowledge hand from other sources. "This finding was supported by study conducted in harrar; Ethiopia where most of the respendents replied that mass media was their main source of information[10]. "However, study conducted in Pakistan differently revealed that their main source of information was from friends andfamily[11]. This showed that students had more exposure to mass media and peers than, getting syllabus (course) in school related to blood donation. And also this may be because health facilities are failing in increasing awareness on blood donation among students.

Therefore, this study accepted the alternative hypothesis for the socio-demographic variables such as sex, previous blood donation, source of information about blood donation from mass media and peers; whereas the study rejected the alternative hypothesis for there maining socio demographic variables such sage, college, year of study, religion, frequency of blood donation, to whom they have donated, blood type and place of residence.

Attitude level

Was significantly associated with college and frequency of blood donation with p-value (0.039 and 0.003) respectively but attitude level was not significantly associated with: age, sex, year of study, religion, previous blood donation, to which they have donated, blood type, source of information and place of residence. Attitude in College of Engineering and Science on blood donation was more unfavorable comparing with college of Education. "However, the result was inconsistent with a study conducted in Tanzania, South India and other related studies where all the participant shad positive attitude on blood donation[6,12]. "This may be due to study population difference and the latter study participants were selected from medical students only but on this current study non-medical students (Engineering, Education and Science students) were only included.

Participants who had donated more than three times and above had more favorable attitude on blood donation than those who had donated twice and below. "This was consistent with a study conducted in North India, King Abdul-Aziz and other related studies[5]". There as on may be because of the information given prior to blood collection and this may have a role in increasing their awareness on blood donation.

Therefore, this study accepted the alternative hypothesis for the socio-demographic variables such as (frequency of blood donation and college); whereas rejected the alternative hypothesis for the remaining socio demographic variables (Age, sex, year of study, religion, previous blood donation, to whom they have donated, sources of information, blood type and place of residence).

LIMITATIONS OF THE STUDY

The current study was undertaken in one institute with only degree students included in the study, so the results cannot be generalized to cover college students in Eritrea. In addition, all the information was obtained from self-reported questionnaires, which could result in potential information and recall bias. Above all, this was a cross-sectional design, which did not allow us to assess causality or the directionality of relationships. This study can only provide insight regarding knowledge ad attitude on blood donation, thus to obtain a clearer picture, future national survey is highly recommended.

Table No.1: Socio-demographic characteristics of the participants (N=338)

S.No	Variable	Ranges	F	%
1	Age	18-20	124	36.7%
		21-23	191	56.5%
		24-26	23	6.8%
2	Sex	Male	202	59.8%
		Female	136	40.2%
3	College	Engineering	114	33.7%
		Science	139	41.2%
		Education	85	25%
4	Year of study	2nd year	113	33.4%
		3rd year	99	29.3%
		4th year	91	26.9%
		5th year	35	10.4%
5	Religion	Christian	308	91.1%
		Muslim	28	8.3%
6	Have you donate blood before	Yes	116	34.35
		No	222	65.7%
7	How many times?	1-2 times	91	78.4%
		>=3 times	25	21.6%
8	To whom have you donated blood	Family	5	4.3%
		Friends	1	0.9%
		Voluntarily	110	94.8%
9	Blood type	A	23	6.8%
		B	46	13.6%
		AB	26	7.7%
		O	69	20.4%
		Don't know	174	51.5%
10	Place of residence	Rural	59	17.5%
		Urban	279	82.5%

11	Source of information from media	No	174	51.5%
		Yes	164	48.5%
12	Source of information from health facility	No	282	83.4%
		Yes	56	16.6%
13	Source of information from school	No	174	51.5%
		Yes	164	13.0%
14	Source of information form pears	No	294	87.0%
		Yes	44	48.5%
15	No sources information	No	0	0.0%
		Yes	30	8.87%
	Total		338	100%

Table No.2: Knowledge level on blood donation (N=338)

S.No	Knowledge questions		F	%
1	What is blood donation?	Transfusion of blood and blood products into one's circulation intravenously	293	86.7%
		Transfusion of all body fluids to another person	18	5.3%
		Endangering one's life by transfusing all the individuals blood	17	5.0%
		Involuntary taking of blood from a person	10	3.0%
2	What purpose does blood donation serve to the recipient?	Marketing purpose	1	0.3%
		Replacing the lost blood	313	92.6%
		Gaining respect from society	10	3.0%
		Strengthening the immunity of the blood donor	14	4.1%
3	When is the world blood donor's day observed?	14-April	82	24.3%
		14-June	112	33.1%
		1-December	81	24.0%
		7-April	63	18.6%
4	Which candidate is suitable for donating blood?	Any person	18	5.3%
		School going children	2	0.6%
		Adolescent	35	10.4%
		Healthy individual	283	83.7%
5	How many litters of blood do you think a person can donate at a time?	450-500ml	259	76.6%
		1000ml	63	18.6%
		2000ml	8	2.4%
		3000ml	8	2.4%
6	At what age is an individual qualified to start donating blood?	No age limit	10	3.0%
		11-13 years	4	1.2%
		15-17 years	88	26.0%
		>=18 years	236	69.8%
7	What is the desirable weight for an individual to donate blood?	<40kg	3	0.9%
		40-45kg	6	1.8%
		45-50kg	319	94.4%

		60-75kg	10	3.0%
8	According to WHO how many time can a male individual donate blood in a year?	2 times	23	6.8%
		3 times	81	24.0%
		4 times	229	67.8%
		Once	5	1.5%
9	According to WHO how many times does female individual donate blood in a year	2 times	97	28.7%
		3 times	31	9.2%
		4 times	190	56.2%
		Once	20	5.9%
10	Where is blood stored?	Ice pack	50	14.8%
		Refrigerator	261	77.2%
		Thermos flask	14	4.1%
		Warm room	13	3.8%
11	How many days does a donated blood stay in refrigerator before It is given to the recipient?	35 days	54	16.0%
		40 days	100	29.6%
		One month	129	38.2%
		A year	55	16.3%
12	Why do you think a blood donor should be informed about the risks of procedure?	Because they may refuse after being informed	20	5.9%
		Because he/she needs to be psychologically prepared	285	84.3%
		Because they may hesitate to donate blood	21	6.2%
		In order to scare others about blood donation	12	3.6%
13	Which one of the following disease will be transmitted through blood donation	HIV	308	91.1%
		Hypertension	4	1.2%
		Diabetes	4	1.2%
		Small bowel obstruction	22	6.5%
14	Which one of the following is a contraindication for blood donation?	Alcohol use	196	58.0%
		Strenuous exercise	33	9.8%
		Increased fluid intake	67	19.8%
		Obesity	42	12.4%
15	What is the duration of a simple donation process?	20-30 minutes	155	45.9%
		40 minutes	30	8.9%
		15 minutes	148	43.8%
		3 hours	5	1.5%
16	Which of the following is the best source of blood donation?	Voluntary blood donation	303	89.6%
		Replacement blood donation	15	4.4%
		Paid blood donation	11	3.3%
		Blood donation for self	9	2.7%
17	Which blood type is known as universal donor?	B	1	0.3%
		AB	16	4.7%
		O	316	93.5%
		A	5	1.5%

18	Which blood type is known as universal recipient?	B	1	0.3%
		AB	303	89.6%
		O	22	6.5%
		A	12	3.6%
19	Which is the rarest blood type in the world?	O+	28	8.3%
		O-	281	83.1%
		AB+	9	2.7%
		AB-	20	5.9%
20	Which one of the following is the immediate complication of blood donation?	Increasing body weight	13	3.8%
		Anaemia	100	29.6%
		Fainting	191	56.5%
		Hypertension	34	10.1%
21	Which of the following statement is true?	Blood collection agencies collect blood from pregnant mothers	5	1.5%
		Blood collection agencies collect from mentally retarded people	7	2.1%
		Blood collection agencies collected blood from individual at prison	10	3.0%
		Blood collection agencies do collect blood from healthy individuals	316	93.5%
22	Which of the following is not included during pre-donation screening?	Exclusion of collection at particular donor site	41	12.1%
		Elimination of donor incentives	81	24.0%
		Screening of individual for infection	100	29.6%
		Restriction of fluid intake	116	34.3%
23	What is the normal interval time between two blood donations?	Less than 30 days	30	8.9%
		No sooner than 56 days	131	38.8%
		More than 4 months	166	49.1%
		10 days	11	3.3%
24	Which of the following blood products can't be transfused to the recipient?	Albumin	24	7.1%
		Plasma	38	11.2%
		Bone marrow	247	73.1%
		Packed RBC	29	8.6%
25	Which one of the following intervention is not done at the donation site?	Protect donors from suffering an adverse reaction after donation	28	8.3%
		Determination of adequacy of donor's haemoglobin level	45	13.3%
		Monitoring of the vital signs	41	12.1%
		Ignoring past medical history	224	66.3%

Table No.3: Total level of knowledge (N=338)

S.No	Inadequate knowledge		Moderately adequate knowledge		Adequate knowledge	
1	F	%	F	%	F	%
2	15	4.4%	188	55.7%	135	39.9%

Table No.4: Attitude level on blood donation (N=338)

S.No	Attitude responses		F	%
1	If feel that one must donate blood to relatives only	Strongly disagree	178	52.7%
		Disagree	121	35.8%
		Not sure	9	2.7%
		Agree	21	6.2%
		Strongly agree	9	2.7%
2	If feel that blood donation is a social responsibility	Strongly disagree	9	2.7%
		Disagree	5	1.5%
		Not sure	13	3.8%
		Agree	124	36.7%
		Strongly agree	187	55.3%
3	If feel that all of my blood will be drained out from my body if I donated blood	Strongly disagree	183	54.1%
		Disagree	104	30.8%
		Not sure	22	6.5%
		Agree	18	5.3%
		Strongly agree	11	3.3%
4	I feel that I will voluntarily donate blood in the future	Strongly disagree	9	2.7%
		Disagree	8	2.4%
		Not sure	60	17.8%
		Agree	139	41.1%
		Strongly agree	122	36.1%
5	I feel that something harmful will happen to me after donating blood	Strongly disagree	95	28.1%
		Disagree	140	41.4%
		Not sure	67	19.8%
		Agree	20	5.9%
		Strongly agree	16	4.7%
6	I believe that I will donate blood to unknown in need person if I am asked	Strongly disagree	14	4.1%
		Disagree	14	4.1%
		Not sure	47	13.9%
		Agree	139	41.1%
		Strongly agree	124	36.7%
7	I don't want to receive blood from the unknown person	Strongly disagree	107	31.7%
		Disagree	121	35.8%
		Not sure	52	15.4%
		Agree	28	8.3%
		Strongly agree	30	8.9%
8	I feel that donating blood will not decrease the amount of blood in my body	Strongly disagree	16	4.7%
		Disagree	53	15.7%
		Not sure	53	15.7%
		Agree	124	36.2%
		Strongly agree	92	27.2%
9	I feel that I may loss my consciousness after donating	Strongly disagree	69	20.4%
		Disagree	104	30.8%
		Not sure	106	31.4%
		Agree	41	12.1%
		Strongly agree	18	5.3%

10	I believe that blood donation can save people's life	Strongly disagree	5	1.5%
		Disagree	4	1.2%
		Not sure	9	2.7%
		Agree	45	13.3%
		Strongly agree	275	81.4%

Table No.5: Total level of attitude (N=338)

S.No	Unfavourable attitude		Moderately favourable attitude		Favourable attitude	
1	F	%	F	%	F	%
2	195	57.7%	95	28.1%	48	14.2%

Table No.6: Association of the socio-demographic variables with the level of knowledge (N=338)

S.No	Socio-demographic variables	Association with knowledge	Significance level
1	Age	5.389	0.250
2	Sex	4.802	0.025
3	College	10.085	0.097
4	Year of study	4.674	0.586
5	Religion	6.206	0.184
6	Have you ever donated blood	8.040	0.018
7	How many times?	0.502	0.778
8	To whom they have donated	6.026	0.178
9	Blood type	8.467	0.389
10	Source of information from mass media	14.660	0.001
11	Source of information from heath facility	1.949	0.377
12	Source of information from school	0.029	0.986
13	Source of information from peers	7.26	0.027
14	Place of residence	5.237	0.073

Table No.7: Association of the socio-demographic variables with the level of attitude (N=338)

S.No	Socio-demographic	Association with attitude	Significance level
1	Age	5.389	0.250
2	Sex	4.802	0.091
3	College(education)	10.086	0.039
4	Year of study	5.771	0.449
5	Religion	1.978	0.740
6	Have you ever donated blood?	3.480	0.175
7	How many times?	26.744	0.003
8	To whom they have donated	1.876	0.640
9	Blood type	8.254	0.409
10	Source of information from media	2.154	0.341
11	Source of information from heath facility	1.709	0.425
12	Source of information from school	3.606	0.165
13	Source of information from peers	1.920	0.383
14	Place of residence	1.975	0.372

Table No.8: Correlation between knowledge and attitude (N=338)

S.No	Correlation		Total knowledge response	Total attitude responses
1	Total knowledge response	Pearson correlation	1	0.188
2		N	338	338
3	Total attitude responses	Pearson correlation	0.188	1
4		N	338	338

CONCLUSION

Since blood transfusion is one of the life-saving medical procedures and Eritrean current blood supply is far less compared to the demand, ensuring adequate blood supply would be vital for the health care system. This can only be achieved by securing sustainable voluntary blood donors within the society. Thus, knowledge and attitude of the participants on blood donation is crucial. The result of this study shows that, majority of the participants had unfavorable attitude, nevertheless, they had good knowledge on blood donation. Considerable gaps in attitude regarding blood donation among the participants were evident. Hence, further efforts (seminars and workshops) are needed to sensitize participant's attitude.

IMPLICATION OF THE STUDY

Nursing Practice-This study will help the nurses to arrange campaigns and to visit college going students and encourage them to donate blood.

Nursing Education-Nurses should formulate curriculum and syllables related to blood donation like importance, purpose and need of blood donation. In addition, they should give training programmes to the college going students.

Nursing Administration-Nursing administrator should arrange blood donation campaigns, in-service education program for staff, health care providers; as are sult the health care providers can arrange programmers to go for school health education.

Nursing Research- This study will help interested nurses to conduct further research study on blood donation for example comparative research study between male and female and assessment of knowledge and attitude on blood donation among students from different level of education.

RECOMMENDATION

Since our study design is a cross sectional, further study is recommended.

Educational programs on blood donation and blood transfusion should be expanded through various media including the internet to keep the topic of blood donation alive in the minds of the college going students. These programs might focus more heavily on the benefits of blood donation and the idea that blood donation does not pose significant health risk sand following this further experimental study should be conducted to assess the change obtained from the educational programmers.

The public should know that all measures besides screening test sare implemented by blood banks to ensure that blood donation is safe for donors and that transfusion of the donated blood is safe for recipients.

Increase in the level of awareness of the college going students' needs to be the top most priority and barriers to donating blood by the students who are the physically fit and recipient part of the society, should be evaluated by future studies.

ACKNOWLEDGEMENT

The authors wish to express their sincere gratitude to Department of Nursing, Orotta College of Medicine and Health Sciences, Asmara, Eritrea for providing necessary facilities to carry out this research work.

CONFLICT OF INTEREST

We declare that we have no conflict of interest.

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Please cite this article in press as: Yemane Fessehaye Berhe *et al*. Knowledge and attitude on blood donation among degree students of Eritrean institution of technology: A cross-sectional study, *International Journal of Nursing and Healthcare Research,* 4(2), 2020, 57-70.