

Assessment of Knowledge, Attitude and Practice of Voluntary Blood Donation among Undergraduate Students in Awada Campus, Hawassa University, Southern Ethiopia

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ABSTRACT

Background: Blood donation is a voluntary procedure that can help save the lives of others. Donated blood plays an important role during cases of surgery, accident, childbirth and bleeding. In Ethiopia, there has been great inadequacy and inequity in access to blood. Objective: The study aimed to evaluate the knowledge, attitude and practice of voluntary blood donation among students of the University of Hawassa, Awada Campus.

Methods: A cross-sectional study was conducted between March 01 and April 01 2017. The data was collected using a standardized and well-structured self-administered questionnaire and analyzed using SPSS version 20.0 programs.

Results: Of a total 346 students who participated in the study, 109 (31.5%) were females and 237 (68.5%) were males. Two hundred and seven (59.8%) of the respondents expressed good knowledge about common types of blood groups, while 132 (38.14%) knew their own blood groups. Among those surveyed, 288 (83.4%) agreed that blood donation is good, while 7 (2.02%) thought it was bad and 51 (14.7%) have no idea. Fifty-one (14.7%) of the respondents have ever donated blood and 295 (85.3%) have never donated blood in their lives.

Conclusion: The majority (59.8%) of the study participants had good knowledge and more than half (83.4%) of them had a favorable attitude towards voluntary blood donation but the practice was unexpectedly low. Therefore, awareness on blood donation should be created among university students to strengthen the existing knowledge.

Keywords: Blood donation; Knowledge; Attitude; Practice; Hawassa

INTRODUCTION

Blood is an invaluable fluid that sustains life. Without a sufficient amount of blood, the cells of the human body could not receive oxygen and adequate nutrients they need to survive. A large volume of blood could be lost as a result of conditions such as traffic accidents, obstetric and gynecological hemorrhages, surgery and trauma [1]. Blood needed for long-term therapies, as well as anemia due to medical or hematological conditions or cancer. Because of this, blood transfusion is considered an integral and essential element of a health care system, since it cannot be manufactured artificially and can only be obtained from human resources [1]. Blood donation is the process in which a volunteer who is a healthy and eligible person voluntarily draws his/her blood for transfusions to those in need. There are different types of blood donors, such

as voluntary, replacement, paid, and family. The safest and best blood source comes from unpaid volunteer donors. Therefore, the WHO theme held in 2012 states that "Every blood donor is a hero." Recommending that countries focus on young people to achieve a 100% voluntary unpaid blood donation by 2020 [2].

Worldwide, more than 80 million units of blood are being given a time of which just 2,000,000 in Sub-Saharan Africa where the interest is high [3]. In many developing and transitional nations, there is a wide gap between blood need and supplies however its auspicious availability is urgent in all health facilities [4].

In Ethiopia, there has been great inadequacy and inequity in access to blood. The national blood requirement in Ethiopia is between 150,000 and 200,000 units per year, of which only 43% has been collected. The percentage of blood collected from voluntary blood

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donors and the average annual blood collection rate are extremely low [5]. The Ethiopian Red Cross Society established the National Blood Transfusion Services (NBTS) in 1969. Its main center is in Addis Ababa and it is also responsible for supervising, supporting and monitoring the activities of 25 regional blood bank services in the country that are administratively under their respective regional health offices [6].

Numerous investigations have been led to determine people's Knowledge, attitude and practice of blood donation. Notwithstanding, to be roused or disheartened about blood donation is as yet challenging. In addition, it ought to be comprehended that blood supplies are adequate, in offset with request and are accumulated from generally safe populace. Thus, University students can be a very good source of quickly, accessible and quality blood if they are motivated and willing to be voluntary blood donors [7]. Therefore, the study aimed to determine the knowledge, attitude and practice of voluntary blood donation among students at Hawassa University, Awada campus, Southern Ethiopia.

METHODS

Study area

The study was conducted among undergraduate students of Awada campus, Hawassa University, Southern Ethiopia. Awada campus is located in Yirgalem town, Dale Woreda, about 324 kilometers South of Addis Ababa, the capital of Ethiopia and it is the home of an estimated total population of 80,000.

According to the University registration office, the total number of students enrolled at the time of the study was 3,500, of which 2,410 were males and 1,090 were females.

Study design and period

A Cross-sectional study design was conducted between March and April, 2017

Exclusion and inclusion criteria

Regular students and volunteers were included in the study from Awada campus of Hawassa University and those who were absent during data collection and were not volunteer to participate in the study and the extension students were excluded.

Sample size

The sample size was calculated using the formula of single population proportion in the prevalence ($P = 5\%$), 95% confidence interval (CI), 5% margin of error (D) and $Z = 1.96$. When applying the correction formula, the total sample size determined was 346.

Sampling technique

To obtain a representative sample, a systematic random sampling

technique was applied. First, the students were categorized according to their identification numbers. The first participant was selected by simple random sampling based on the sampling fraction, in our case $3,500 / 346 = 10$; therefore, the number of first student included was randomly chosen using the lottery method.

Data collection method

The data was collected using a standardized and well-structured self-administered questionnaire that was prepared in English to assess the characteristics of socio-demographic status, as well as their knowledge, attitude and practice towards blood donation. To increase the quality of the data, most of the questions were compared with previously conducted studies with some changes applied depending on the local context. Likewise, the confidentiality of the study was confirmed. Data were collected while students were in the classrooms.

Data analysis

After data collection, the integrity and consistency of each questionnaire was verified. Then, the data was analyzed using the statistical software SPSS 20.0. For descriptive statistics, the results were presented in terms of proportions or percentages.

Data quality control

The data collection instrument was previously tested in 5% of similar students from each department to verify validity and reliability. The study was supervised by the principal investigators during the entire data collection period.

Ethical consideration

Prior to data collection, an ethical approval letter was obtained from the Institutional Review Board (IRB) of Yirgalem Hospital Medical College. An official authorization letter was obtained from the Administration of the Awada Campus of Hawassa University. Written consent was obtained from the study participants after explaining the purpose of the study. Study participants were also informed that their answers are confidential and they have right not to participate in the study or not to answer any of the questions.

RESULTS

A total of 346 students involved in the study of which 109 (31.5%) were female and 237 (68.5%) were male. All students were in the age group of 18-25 years. Regarding religion, 133 (38.43%) were Orthodox, 105 (30.34%) were Protestants, 66 (19.1%) were Muslims, 7 (2.02%) were Catholics and the rest 35 (10.11%) were others (Table 1).

Level of knowledge towards voluntary blood donation

Around 207 (59.8%) of the before respondents expressed a good knowledge of the common blood groups, and 132 (38.14%) knew their own blood groups. Exploration questionnaires heard about

Table 1: Socio-Demographic Characteristics of the study participants at Hawassa University, Awada campus, Southern Ethiopia, 2017

Characteristics		Frequency	Percentage (%)
Sex	M	237	68.5
	F	109	31.5
Religion	Orthodox	133	38.43
	Muslim	66	19.1
	Catholic	7	2.02
	Protestant	105	30.34
	Other	35	10.11

blood donation, 212 (87.3%) of respondents have heard about it, while 44 (12.82%) have not heard. The source of information obtained by respondents on blood donation: 240 (69.34%) from media, 58 (15.04%) from blood donors, 45 (13%) from family or friends and 9 (2.62%) from other sources not specified. On the best source of blood supply question, 158 (45.7%) voluntary blood donors, 119 (34.4%) family donors, 59 (17.1%) paid donors and 10 (2.8%) respondents have no idea. Of those surveyed, 230 (66.5%) had good knowledge about infection transmission during blood transfusion, but 116 (33.5%) of the respondents had little knowledge. Of the respondents 165 (47.7%), stated that the minimum donation frequency was every three months, 70 (20.2%) every six months, 11 (3.2%) annually and the remaining 61 (17.6%) were not aware of this. Regarding the response to eligibility for blood donation, male aged 18 to 60 years 105 (30.14%), female aged 18 to 60 years 81 (23.4%), youth <18 years 28 (8.1%), over 60 years 7 (2.02%), 29 (8.4%) vulnerable group, 4 (1.2%) sick and healthy individual 92 (26.6%). Regarding the knowledge of the duration of the donation process 38 (9.5%) stated that less than 10 minutes, 168 (48.5%) scored 20-60 minutes, while 140 (40.5%) did not express knowledge of it (Table 2).

Level of attitude towards voluntary blood donation

Among respondents in general, 288 (83.4%) of the survey said that blood donation is good, while 7 (2.02%) thought it is bad and 51 (14.7%) have no idea. Similarly, 229 (66.2%) of the study participants responded that voluntary blood donation is the best source of blood. About 217 (62.7%) of the respondents thought that an incentive should be given to donors and 208 (60.12%)

thought damage to a blood donor could occur during or after blood donation. Two hundred and eight (60.12%) of the participants said something would happen to a donor, 38 (18.3%), 110 (52.9%) and 60 (28.9%) stated that a donor could get an infection, temporarily weaken and get sick, respectively. Of the total respondents 225 (76.3%) said that relatives of patients should be asked to donate blood and two hundred and nine (60.4%) were showed willingness to donate blood in the future (Table 3).

Level of practice towards voluntary blood donation

Of the total respondents 51 (14.7%) have donated blood at some time, of which 29 (56.9%) donated once, 13 (25.5%) donated twice and 8 (15.7%) donated three times. Of those who donated blood, 22 (43.1%) feel comfortable, 18 (35.3%) feel fear, 5 (9.8%) feel anger and 6 (11.7%) feel indifferent after donating blood. His/her donation reason was 29 (56.9%) for a sense of social responsibility and 13 (25.5%) for helping friends or family. Two hundred and ninety-five (85.3%) had never donated blood in their lives. The reason for the non-donation included 61 (20.8%) have not approached to donate, 50 (16.9%) unfit to donate, 60 (20.3%) need to donate for relatives or friends in the future, 72 (24.4%) fear to the needle, 32 (10.8%) fear of knowing the state of their screen, 4 (2.7%) religion (Jehovah's ingenuity) forbids it, 6 (2.03%) donated blood can be sold and 10 (3.4%) without remuneration (payment).

The reasons why respondents non-donors were including medical reasons 78 (22.54%), no time to donate blood 50 (14.5%), no information on when, where and how to donate 205 (59.25%), lack of permission from parents 84 (25.72%), and fear of weakness due to donation 139 (40.2%) (Table 4).

Table 2: Level of Knowledge towards voluntary blood donation among students at Hawassa University, Awada campus, Southern Ethiopia, 2017.

Item	Response	Frequency	Percentage (%)
Do you know the common blood groups?	Yes	207	59.83
	No	139	40.17
Have you ever heard about Blood donation?	Yes	207	59.83
	No	139	40.17
What is your source of information?	Mass media	240	69.34
	Blood donors	58	15.04
	families/friends	45	13
	Others	9	2.62
Can a person be infected by receiving blood transfusion?	Yes	230	66.5
	No	116	33.5
How often an individual can donate blood?	Every three month	165	47.7
	Twice in three months	39	11.3
	Every six month	70	20.2
	Annually	11	3.2
	Do not know	61	17.6
Who should donate blood	Men (18-60) yrs	105	30.14
	Women (18-60) yrs	81	23.4
	Young <18 yrs	28	8.1
	Old >60 yrs	7	2.02
	Vulnerable group	29	8.4
	Anyone who is healthy	92	26.6

Table 3: Level of Attitude towards voluntary blood donors among students at Hawassa University, Awada campus, Southern Ethiopia, 2017.

Item	Response	Frequency	Percentage (%)
What do you think about blood donation	Good	288	83.24
	Bad	7	2.02
	No idea	51	14.7
Do you think incentive needed to give who donate blood?	Yes	217	62.7
	No	129	37.3
Do you think VBD is best source of blood donation to make blood safe?	Yes	229	66.2
	No	117	33.8
Cloud harm occurs to a blood donor during or after donation?	Yes	208	60.12
	No	138	39.9
What can happen to blood donor during or after donation?	Contact infection	38	18.3
	Temporary weakness	110	52.9
	Fall sick	60	28.9
Should patient relatives be asked to donate blood?	Yes	175	50.6
	No	77	22.5
	Don't know	94	27.2

Table 4: Level of practice towards voluntary blood donation among students at Hawassa University, Awada campus, Southern Ethiopia, 2017.

Item	Response	Frequency	Percentage (%)
Have you ever donated blood	Yes	51	14.7
	No	295	85.3
How money time you donated	1	29	56.9
	2	13	25.5
	3	8	15.7
	More than 3 time	1	1.96
	Altruism	1	1.96
What are your reasons for donating blood	Sense of social responsibility	29	56.9
	For helping friends/relatives	13	25.5
	Spiritual bless	8	15.7
	Not approached to donate	61	20.8
Why you did not donate blood?	Un fit to donate	50	16.9
	Need to donate to friends / to relatives in the future	60	20.3
	Fear of needle	72	24.4

DISCUSSION

This study was assessed the knowledge, attitude and practice of voluntary blood donation and associated factors among Hawassa University, Awada Campus undergraduate students, Southern Ethiopia. Accordingly, the study results revealed that 207 (59.8%) of the study subjects were knowledgeable about blood donation. This finding is in agreement with a study conducted in Central India where 52.5% of the study participants were knowledgeable about blood donation [8]. However, the finding is lower than studies done in Addis Ababa, Ethiopia (83.6%) [9], Adama, Ethiopia (79.4%) [10], Nigeria (85%) [3], South India (62%) [11] and Thailand (80%) [12]. On the other hand, the finding is higher than the results of studies conducted in South India (35.7%) [13], Nepal (32.4%) [14], Manipur (9%) [15] and Kollam, Kerala (35%) [16]. The conceivable purpose behind the variety may be ascribed to the distinctions in socio-demography and access to learning openings on the significance of blood donation.

The current study also revealed that about 83.4% of the study participants had a good attitude towards blood donation. This

finding is in consistent with a study conducted in Pondicherry, India where 85% of the study participants had positive attitude and were willing to donate blood voluntarily [7]. However, the finding is lower than study done in South India [11] where 87.3% of the study participants showed favorable attitude towards blood donation. On the other hand, finding of the present study is higher than the study carried out in Addis Ababa, Ethiopia [9]. This distinction may happen due to socio-cultural contrasts and instructive properties between the study populations.

Of the study participants, 230 (66.5%) were knowledgeable about the transmission of infections during blood transfusion, which is comparable to the study conducted in healthcare workers at the specialized hospital of Tikur Anbessa, Ethiopia where 261 (88.5 %) of the respondents were knowledgeable [5]. However, it is higher than the finding of a study done on adult in the city of Debre-Markos, northwestern Ethiopia (47%) [3]. This suggests that most study participants in Hawassa University, Awada Campus had awareness on the transmission of infections during blood transfusion.

In the current study, majority 212 (87.3%) of the study participants have heard about blood donation. This is in agreement with the study carried out in students of Health Sciences of the University of Samara, Ethiopia where 319 (94.1%) of the study participants had information on blood donation [2]. With respect to the source of information, approximately 240 (69.34%) of the respondents obtained blood donation information from media. This is consistent with the study conducted among adults in the city of Debre-Markos, northwestern Ethiopia, where 601 (71.2%) of the study participants have heard about blood donation information on television followed by 92 (11.9%) by radio [3]. This finding indicates that media may play a great role in disseminating information about blood donation into the community.

The majority of respondents 165 (47.7%) stated that the minimum frequency of blood donation was every two months. This is lower than the findings of the study conducted among healthcare workers in the specialized hospital of Tikur Anbessa, Ethiopia where 200 (67.8%) of the study respondents stated that the minimum frequency of donation was every three months [4]. This is because health professionals may have better understanding on the frequency of blood donation than other communities.

In current study, 229 (66.2%) of respondents said that voluntary blood donor is the best source of blood donation. This is lower than the finding of the study conducted in healthcare workers in the specialized hospital of Tikur Anbessa, Ethiopia (75.3%) [5]. This can be explained by the fact that the respondents of the specialized hospital of Tikur Anbessa, Ethiopia were healthcare workers and may have a better understanding of voluntary blood donation than the people involved in this study.

In this study, 295 (85.3%) of the study participants had never donated blood in their lives of which 61 (20.8%) of the participants did not come to donate. This is lower than the findings reported from health care workers in the Tikur Anbessa specialized hospital, where 97 (32.9%) have not approached to donate. This may be due to lack of interest and information on the blood donation [5].

CONCLUSION

Despite the fact that, the University students are in the scope old enough of gigantic pool for blood donation, extent of students has ever donated blood are low. Age, year of study, willingness to donate later on, having apprehension to donate blood, readiness to urge family members to donate, and mentality toward deliberate blood donation were the indicator factors for voluntary blood donation among undergraduate students as of Awada Campus, Hawassa University, Southern Ethiopia. Therefore, Hawassa University, Awada Campus, in joint effort of zonal blood donation center should work to expand the information level of University students on voluntary blood donation.

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AUTHORS' CONTRIBUTION

TS: Conceptualized and designed the study. CG, MD, TW: Collected the data, analyzed data and interpreted the results. EG, DT: Reviewed the manuscript, TS: Critically reviewed the manuscript. All authors read and approved the submitted manuscript

ETHICS APPROVAL

Prior to data collection, written informed consent was obtained from the study participants.

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CONFLICT OF INTEREST

The authors have no conflict of interests to disclose.

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