

## Original Research Article

# Blood donation practice and associated factors among health professionals working at health centers in Nefas Silk Lafto sub city, Addis Ababa, Ethiopia

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## ABSTRACT

**Background:** Accessibility of a safe and adequate blood transfusion is a challenge worldwide and even more critical in Africa. Even though blood donation is lifesaving practice, current blood supply is far less compared to the demand in Ethiopia. However, there is limited information in Ethiopia. Therefore, this study aimed to assess blood donation practice and associated factors among health professionals working at health center in Nefas Silk Lafto sub city, Addis Ababa, Ethiopia.

**Methods:** Institution based cross-sectional study was conducted among health professionals working at health centers in Nefas Silk Lafto sub city, Addis Ababa from 23 August 2019 to 20 September 2019. Simple random sampling technique was used to select the study participants. Data were collected using self-administered structured questionnaire. Binary logistic regression analysis was used for data analysis.

**Results:** 459 health professionals were included in the study with a response rate of 98.4%. Only 157 (34.2%) of them donated blood in the last five years. Age (AOR=1.72, 95% CI: 1.06, 2.79), blood collection site (AOR=3.46, 95% CI: 2.03, 5.89), blood collection working (AOR=2.00, 95% CI: 1.16, 3.44) and knowledge (AOR=0.32, 95% CI: 0.14, 0.76) were significantly associated with blood donation practice.

**Conclusions:** Blood donation practice was low. Age of health professionals, blood collection site, blood collection working hour and knowledge were significantly associated with blood donation practice. Therefore, establish fixed and mobile collection site and convenient time for blood donors and awareness creation is crucial.

**Keywords:** Blood donation, Practice, Health professionals, Addis Ababa, Ethiopia

## INTRODUCTION

Blood transfusion is an essential component of health care which saves millions of lives each year and improving the quality of life for millions of people worldwide and human blood is an important element of human life. Incidentally, there is no substitute to blood hence donation of blood by humans is of utmost importance.<sup>1,2</sup>

Blood transfusion is most commonly used in caring for women suffering from bleeding associated with pregnancy and childbirth, children suffering from severe anemia due to malaria and malnutrition, and victims of trauma, emergencies, disasters and accidents. It is also used to support advanced medical and surgical procedures, including cardiovascular surgery and transplantation in countries with advanced health care systems.<sup>3,4</sup>

Blood transfusion can be lifesaving for individuals who have lost large volumes of blood from serious accidents, obstetric and gynecological hemorrhages, or surgery and stem cell transplant patients as well as for individuals who have symptomatic anemia from medical or hematologic conditions or cancers. Therefore, it is an important concern to the society.<sup>5</sup> Severe bleeding during delivery or after childbirth is the most common cause of maternal mortality and contributes to around 34% of maternal deaths in Africa include Ethiopia and The mortality rates in the world health organization (WHO) African region are the highest in the world, with average regional estimates of an under-five years old mortality rate of 81.3 per 1000 live births, and a neonatal mortality rate of 28 per 1000 live birth.<sup>6</sup>

Saharan Africa (SSA), blood transfusion is critical to the treatment of diverse pathologies including malaria-associated anemia, obstetric hemorrhage, and trauma. However, access to a safe and adequate blood supply remains an enduring public health challenge in much in SSA, due to blood shortages remain frequent in Africa, where more than 40 countries still fail to attain the WHO's donation goal of 10 units/1000 population but shortages occur despite a 19% increase in whole blood (WB) donation in 12 African countries from 2011 to 2014.<sup>7</sup>

Blood transfusion services were provided by the Ethiopian Red Cross society (ERCS) since 1969 through a memorandum of understanding (MoU) with The Federal Ministry of Health (FMoH). FMoH made a policy decision to revert the responsibility for the national blood transfusion services (NBTS) from the ERCS to a government-led and managed service under the FMoH and the regional health bureaus a process which started in 2010 and was completed in 2013. This was with the aim of improving efficiency, access and quality of a service that was mainly a fragmented, hospital based system that could only be accessed by hospitals in the regional capitals, heavily reliant on family replacement donors, with neither universal nor quality assured testing of blood and inappropriate use of blood at the hospitals. The blood transfusion program has been granted autonomy status under the FMoH and the number of functional blood banks has increased from 12 to 25 each covering hospitals within 100 km radius. The number of active mobile blood collection teams increased from 4 in 2012 to 31 in 2014.<sup>8,9</sup>

In Ethiopia the blood transfusion program has been granted autonomy status under the FMoH. The number of functional blood banks has increased from 12 to 25 each covering hospitals within 100 km radius. Number of hospitals accessing safe blood and blood products increased from 48% in 2012 to over 90% in 2014 (each of the blood banks supplies 8-12 hospitals each). The number of active mobile blood collection teams increased from 4 in 2012 to 31 in 2014. Total number of units of blood collected increased from 24,000 units per annum in 2004 to 95,466 in 2013 (62,000 units in first 6 months of 2007 EFY). Proportion of voluntary blood donation increased from 10% in 2012 to 92.1% in 2014 achieving the WHO

regional target of 80% from 48% in 2012 to over 90% in 2014) in 2006.<sup>10</sup>

Though the blood donation is lifesaving practice, Ethiopia's current blood supply is far less compared to the demand. Ensuring adequate blood supply would be vital for the health care system. Health professional are parts of general population, more participated in blood donation and relatively more accessed for information dissemination. According to WHO recommendation, estimated units of blood requirement in Ethiopia during 2018/19 was one million units per year, yet 186,982 units of blood collected in the same year and about 27,416 (11.37%) units of blood was deficit in the country and the amount of estimated blood requirement in national blood bank is about 84,000 units/year. But only 53,870 units (64.13%) of blood could be collected per year and about 18,247(21.72%) units of blood was deficit, this is the gap initiate to conduct study on blood donation.<sup>11</sup> However, there is limited information regarding blood donation practice and associated factors among health professionals. Therefore, this study aimed to assess blood donation practice and associated factors among health professional working at health centers in Nifas Silk, Lafeto sub city, Addis Ababa, Ethiopia.

## METHODS

### *Study design and setting*

An institution based cross-sectional study was conducted among health professionals working at health centers in Nifas Silk Lafto sub city, Addis Ababa, Ethiopia from 23 August 2019 to 20 September 2019. Addis Ababa has 10 sub cities and Nifas Silk Lafto sub city is one of the sub cities. In Nifas Silk Lafto sub city there are 12 woredas and from which 10 woredas has health centers and one health office with the total number of 825 health professionals (216 males and 609 females). There is one blood collection cite delegated by national blood bank by to collect blood from voluntary donors and supply to hospitals.

### *Study population*

The study population were all health professionals working at health centers in Nifas Silk Lafto sub city, Addis Ababa, Ethiopia.

### *Inclusion and exclusion criteria*

All health professionals working at health centers in Nifas Silk Lafto sub city, Addis Ababa and available during data collection were included in the study. However, health professional who were sick and absent during the data collection period were excluded from the study.

### *Sample size determination and sampling procedure*

The sample size was determined using single population proportion formula by considering the 95% confidence

level (CI), 5% marginal error and proportion of blood donation, 33.2% and using double population proportion formula using Epi-info statistical calculation and considering one to one ratio and 80% power, design effect of 1.5 and 10% non-response rate based on a study conducted in University of Gondar Hospital and the largest sample size was taken which was 466.<sup>12</sup> In Nefas Silk Lafto sub city there were 10 woredas which have health centers. There were about 785 health professionals in the sub-city health centers. The study participants were selected by simple random sampling technique. The sample size allocation was proportionally for all health centers according to the number of health professionals working in the health centers.

### Operational definitions

Blood donation practice, a person who donates blood in last 5 years at least once by his/her own in free, no payment for it, either in the form of cash or in kind which could be considered a substitute for money.<sup>13</sup>

### Knowledge

Good knowledge, those who scored >7 of 10 knowledge-based questions and not knowledgeable: those who scored ≤7 of 10 knowledge-based questions.

### Attitude

Positive attitude, those who scored >5 of 7 attitude-based questions and negative attitude: those who scored ≤5 of 7 attitude-based questions

### Data collection procedures and quality assurance

Self-administered structured questionnaire was used for data collection. The questionnaire was prepared in English and then translated to Amharic. The questionnaire was pre-tested on 10% of the sample among health professionals in non-selected health centers. Two days training with practical exercise was given to data collectors and supervisors before the actual data collection regarding the aim of the study. The principal investigator checked and reviewed the completeness of the questionnaires and offer necessary feedback to data collectors.

### Data management and analysis

The collected data were coded and entered to Epi-info version 7.0 and the cleaned data set was exported into statistical package for the social sciences (SPSS) version 20. Participants' socio-demographic characteristics and other variables were described using relevant descriptive statistics. Univariate binary logistic regression analysis was done at 25% level of significance to screen out potentially significant independent variables and using significant independent variables multivariable binary logistic regressions analysis was performed at 5% level of

significance to see the association between the dependent variable and independent variables. To check the adequacy of the final model Hosmer and Lemeshow goodness of fit test was checked and fitted for the data (P-value=0.949). The assumption of multi-collinearity was checked and no multi-collinearity detected. For binary logistic regression 95% confidence interval was computed and a variable with P-value<0.05 was considered as statistically significant to the dependent variable.

## RESULTS

In this study, 459 health professionals were included in the study with a response rate of 98.4%. About 305 (65.5%) of the study participants were females. More than half of the study participants, 255 (55.6%) were in the age group of 22-39 years and 315 (68.6%) of the study participants had first degree education level. About 218 (47.5%) of the study participants were orthodox religion followers and almost half of the study participants 243 (51%) were married. One hundred ninety (41.8%) of the study participants were nurses (Table 1).

**Table 1: Socio-demographic characteristics of the study participants (n=459).**

Variables	Frequen-cy	%	
Sex	Male	161	34.5
	Female	305	65.5
Age in years	20-29	255	55.6
	2.30-39	176	38.3
	3.>40	28	6.1
Education	1st degree	315	68.6
	Level IV	117	25.5
	2nd degree	27	5.9
Religion	Jehovah	40	2.7
	Others	66	14.4
	Orthodox	218	47.5
	Protestant	135	29.4
Marital status	Married	243	51.0
	Single	164	35.7
	Divorce and widowed	61	13.3
Profession	Nurse	190	41.8
	Doctor	6	1.3
	Health officer	66	14.4
	Midwifery	57	12.2
	Pharmacist	75	16.3
	Laboratory technician	65	14.2

### Knowledge and attitude level of blood donation

Majority, 404 (88.0%) of the study participants had good knowledge about blood donation and 385 (83.9%) of the study participants had positive attitude (Table 2).

**Table 2: Knowledge and attitude level of the study participants about blood donation (n=459).**

Variables		Frequency	%
Level of knowledge-able	Good knowledgeable	404	88.0
	Not knowledgeable	55	12.0
Level attitude	Positive attitude	385	83.9
	Negative attitude	74	16.1

**Source of information on blood donation**

Majority, 340 (74.1%) participants got donation information from family and friends. Similarly, 343 (74.7%) of the study participants got information from mass media, and 241 (52.5%) of the study participants got information from social media about blood donation information (Table 3).

**Table 3: Source of information on blood donation for health professionals (n=459).**

Variables		Frequency	%
Family and friends	Yes	340	74.1
	No	119	25.9
Mass media	Yes	343	74.7
	No	116	25.3
Social media	Yes	241	52.5
	No	217	47.3

**Institutional factors**

Out of the total study participants, 173 (37.7%) of them said blood collection site is convenient and 154 (33.6%) of them said the blood collection working hour is convenient for them. About 194 (42.3%) of the study participants preferred to donate blood in the morning and majority, 367 (80%) of them not received proper blood donation information/education (Table 4).

**Table 4: Source of information on blood donation for health professionals (n=459).**

Institutional factors		Frequency	%
Blood collection site convince	Yes	173	37.7
	No	285	62.1
Blood collection working hour convenience	Yes	154	33.6
	No	304	66.2
Preference of time for blood donation	In the morning	194	42.3
	At noon	134	29.2
	In the afternoon	131	28.5
Proper blood donation information/education provided	Yes	92	20.0
	No	367	80.0

**Blood donation practice**

Out of the total study participants, 184 (40.1%) of them donated blood in their life time and 102 (22.2%) of them donated blood once. Only 157 (34.2%, 95% CI 39.7, 38.3) of them donated blood and the remaining 302 (65.8%:95% CI: 64.1, 70.3) did not donated blood in the last five years. About 148 (32.2%) of the study participants donated blood for mental satisfaction and 82 (17.9%) did not donated blood due to lack of invitation for blood donation (Table 5).

**Factor associated with blood donation practice**

At 25% univariate binary logistic regression analysis age, profession, level of education, source of information, institutional factors, knowledge and attitude toward blood donation were significantly associated with practice of blood donation among health professionals. However, only age, knowledge of blood donation, blood collection site convenience and blood collection, working hour and attitude toward of blood donation were found to be significantly associated with practice of blood donation in the multivariable binary logistic regression model at 5% level of significance.

Accordingly, health professionals who were in the age group of 20-29 years were 1.72 times more likely to donate blood compared to those who were in age group of 30-39 years (AOR= 1.72, 95% CI: 1.06,2.79).

The study participants who said the blood collection site is convenient were 3.46 times more likely to donate blood compared to those who said the blood collection site is not convenient (AOR=3.46,95% CI:2.03,5.89). The study participants who said the blood collection working hour is convenient were 2.0 times more likely to donate blood compared to those who said the blood collection working hour is not convenient (AOR=2.00, 95%CI: 1.16, 3.44). The study participants who had good knowledge about blood donation were 67.6% less likely to donated blood compared those who were not knowledgeable about blood donation (AOR=0.32, 95%CL: 0.14, 0.76) (Table 6).

**Table 5: Practice of blood donation among health professionals (n=459).**

Variables		Frequency	%
<b>Blood donation in life time</b>	Yes	184	40.1
	No	275	59.9
<b>Blood donation in the last 5 years</b>	Yes	157	34.2
	No	302	65.5
<b>Frequency of blood donation</b>	Once	102	22.2
	Twice	52	11.3
	Three	33	7.2
	Four and above	11	2.4
<b>Time interval for blood donation</b>	3 months	84	18.3
	4 months	30	6.5
	6 months	35	7.6
	Occasional	40	8.7
<b>Reasons not to donate blood</b>	Fear of needle	32	7.0
	Not enough time	61	13.3
	Transportation problem	61	10.9
	Nobody's invitation	82	17.9
	Others	63	13.3
<b>Reasons to donate blood</b>	Influence of friends	20	4.4
	Mental satisfaction	148	32.2
	Family's need	13	2.8
	Hearing in mass media and social media about blood donation	11	2.4

**Table 6: Univariate and multivariate analysis for factors associated blood donation in the last 5 years (n=459).**

Variables	Blood donation		COR (95%CI)	AOR (95%CI)	P value	
	Yes	No				
<b>Age in years</b>	20-29	110	145	1.58(1.05,2.39) *	1.72(1.06,2.79)	0.029*
	30-39	63	113	1.00	1.00	
	>40	11	17	0.67(0.26,1.75)	0.85(0.29,2.44)	0.759
<b>Profession</b>	Nurse	23	52	1.29(0.22,7.55)	0.34(0.05,2.55)	0.293
	Doctor	3	3	1.20(0.59,1.92)	0.92(0.39,2.15)	0.843
	Health officer	28	38	1.00	1.00	
	Midwifery	23	34	1.19(0.57,2.52)	1.13(0.49,2.63)	0.773
	Pharmacist	75	115	1.57(0.88,2.81)	1.36(0.69,2.63)	0.368
	Laboratory tech.	32	33	1.41(0.69,2.88)	1.22(0.56,2.89)	0.567
<b>Education</b>	Level IV	52	65	1.00	1.00	
	1st degree	123	192	1.42(0.92,2.21)	1.36(0.81,2.31)	0.248
	2nd degree	9	18	1.06(0.46,2.44)	1.33(0.51,3.47)	0.561
<b>Family/friend as source of information</b>	Yes	148	192	1.87(1.17,3.39)	1.39(0.80,2.42)	0.240
	No	119	83	1.00	1.00	
<b>Mass media</b>	Yes	141	202	1.50(0.95,2.39)	1.16(0.68,1.99)	0.580
	No	43	73	1.00	1.00	
<b>Social media</b>	Yes	110	131	1.39(0.94,2.05)	0.97(0.62,1.56)	0.992
	No	74	143	1.00	1.00	
<b>Blood collection site convenience</b>	Yes	113	60	5.11(3.37,7.76)	3.46(2.03,5.87)	<0.001*
	No	70	215	1.00	1.00	
<b>Working hour convenience</b>	Yes	88	66	4.63(3.05,7.03)	2.00(1.16,3.44)	0.012*
	No	68	236	1.00	1.00	
<b>Knowledge</b>	Good knowledge	149	255	0.29 (0.13,0.63)	0.32(0.14,0.76)	0.010*
	Not knowledgeable	8	47	1.00	1.00	
<b>Attitude</b>	Positive Attitude	137	248	0.67(0.36,1.18)	0.55(0.29,1.05)	0.067
	Negative Attitude	20	54	1.00	1.00	

COR=crude odds ratio, AOR=adjusted odds ratio, CI= confidence interval, \*statistically significant

## DISCUSSION

This study has assessed blood donation practice and associated factors among health professionals in Nefas Silk Lafto sub city, Addis Ababa. Among the total study participants only 157 (34.2%) of them donated blood in the last five years. This finding is lower than the finding of the study conducted among health professionals in Tigray regional state public hospitals 47.8% of the study participants had donated blood in their life time.<sup>13</sup> It is also lower than a study conducted in Addis Ababa among health professionals of Tikir Anbessa Hospital which was 38.3%.<sup>14</sup> This difference could be due to lack of repeated campaigns and not established blood donation club and motivational (education) about blood donation in health centers by national blood bank and donor motivators. In this finding, the major reason given by those who had not donated was that no one approached them or lack of invitation for blood donation and did not recruits new blood donors and retaining existing blood donors to build up a healthy voluntary blood donor base to develop the culture of blood donation.

Health professionals in the age group of 20-29 years were 1.72 times more likely to donate blood compared to those who were in age group of 30-39 years. The probable reason may be as their age increases they might not fit to donate blood through time in different reason especially women due to breast feeding, and chronic disease like increase blood pressure and in the age group 20-29 years more spend their time on social media so that have knowledge about blood donation and they are eager to involved in humanity (on blood donation) and in this age group not develop chronic disease. Similarly, studies conducted in district Una, Himachal Pradesh, India; University of Gondar Hospital, northwest Ethiopia; University of Gondar, northwest Ethiopia and public hospitals of Tigray regional state, northern Ethiopia indicated that age had significant association with practice of blood donation.<sup>12,13,15,16</sup>

The study participants who said the blood collection site is convenient were 3.46 times more likely to donate blood compared to those who said the blood collection site is not convenient. The possible reason might be for some of the study participants the blood collection site is convenient because of blood bank mobile teams staff was available in some of the study area and in some the study area the blood collection site was not convenient for the study participant that the mobile teams was not available.

The study participants who said the blood collection working hour is convenient were 2.0 times more likely to donate blood compared to those who said the blood collection working hour is not convenient. This might be due to for most of the study participants the blood collection working hour was convenient due to blood donation mobile teams which are working the whole day, including lunch time but in some of the study area blood collector team was not available.

The study participants who had good knowledge of blood donation were 67.8% less likely to donated blood compared those who had not knowledgeable of blood donation. This can be explained by the fact that those who had good knowledge about blood donation could understand that donating blood does not harm the donor and hence could have donated the blood to save lives. Similarly, a study conducted at University of Gondar Hospital, northwest Ethiopia; public hospitals of Tigray regional state, northern Ethiopia and Chiro town of western Hararghe zone, eastern Ethiopia showed that knowledge about blood donation had significant association with practice of blood donation.<sup>12,13,17</sup>

## CONCLUSION

Blood donation practice among health professionals working at health centers in Nefas Silk Lafto sub city was found to be low. Age of health professionals, blood collection site, blood collection working hour and knowledge were significantly associated with blood donation practice. Therefore, establish appropriate fixed and mobile collection site and convenient time for blood donors, planning good strategy to create awareness with information education communication materials before blood donation is crucial.

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## REFERENCES

1. Verma S, Sharma R, Sharma M, Pugazhendi S. Voluntary blood donation: attitude and practice among Indian adults. *J Comm Med Health Edu.* 2016;6(3):1-6.
2. Ossai E, Eze N, Chukwu O, Uguru U, Ukpai E. Determinants of practice of blood donation among undergraduate students of Ebonyi State University Abakaliki, Southeast Nigeria. *Arch Comm Med Pub Health.* 2018;4(1):1-7.
3. World Health Organization. Regional Status Report on Blood Safety and Availability. 2016. Available at: <https://apps.who.int/iris/handle/10665/258923>. Accessed on: 25 March 2020.
4. World Health Organization. Strategic framework for blood safety and availability 2016-2025. 2017. Available at: <https://www.who.int/docs/default-source/blood-transfusion-safety/emropub-2017-en->

- 19608.pdf?sfvrsn=3a119965\_2. Accessed on 25 March 2020.
5. Benedict N, Usimenahon A, Alexander I. Knowledge, attitude, and practice of voluntary blood donation among healthcare workers at the university of benin teaching hospital, Benin city, Nigeria. *J Blood Trans.* 2013;1-7.
  6. Loua A, Nikiema J, Kasilo O, Tagny C. Blood safety and availability in the WHO African region. *Glob Surg.* 2018;4(3):1-7.
  7. Weimer A, Tagny C, Tapko J, Gouws C, Tobian AAR, Ness PM, et al. Review blood transfusion safety in sub-Saharan Africa: a literature review of changes and challenges in the 21st century. *Transfusion.* 2019;59:412-27.
  8. Federa democratic republic of Ethiopia. National blood bank service establishment Council of Ministers regulation: Regulation no. 330/2014. *Federal Negarit Gazette.* 2015;14:7928-32.
  9. Keadnew M, Tamiru H, Addisu Y, Bezuayehu T. Assesment of knowledge, attitude and practice on blood donationn in AmanSub city residents, South West, Ethiopia. *Health Sc J.* 2017;11(1):485.
  10. Dagmawit F. Evaluation of return rate and return determinants among first time voluntary blood donors in Ethiopian national blood bank service Addis Ababa: Public Health Addis Ababa University. 2017.
  11. Ethiopian National Blood Bank Service. Number of whole blood units planned, collected, distributed and discared in 2018/2019 budget year. 2019.
  12. Getachew A, Seada I, Endeshaw A. Blood donation practice and its associated factors among health professionals of University of Gondar Hospital, Northwest Ethiopia: a cross sectional study. *BMC Research Notes.* 2017;10(294):1-6.
  13. Tadesse T, Berhane T, Abraha TH, Gidey B, Hagos E, Grum T, et al. Blood donation practice and associated factors among health professionals in Tigray regional state public hospitals, northern Ethiopia. *BMC Research Notes.* 2018;11(677):1-6.
  14. Ambaye D. Knowledge, attitude, practice and associated factors of blood donation among health care workers in Tikur Anbessa specialized hospital, Addis Ababa, Ethiopia. Addis Ababa: Emergency medicine, Addis Ababa University. 2015.
  15. Ankita T, Hoshiar S, Bishwas A. Knowledge and practice of blood donation among the undergraduate students of district Una, Himachal Pradesh, India. *Global J Med Public Health.* 2015;4(6):1-7.
  16. Mulugeta M, Fikir A, Bamlaku E. Knowledge, attitude and practice regarding blood donation among graduating undergraduate health science students at the University of Gondar, Northwest Ethiopia. *Ethiop J Health Sc.* 2018;28(5):571-82.
  17. Gelana F, Sintayehu N, Tesfaye G, Habtamu M, Hassen A. Voluntary blood donation practice and associated factors among civil servants in Chiro town of western Hararghe zone, eastern Ethiopia: a cross-sectional study. *Health Econom Outcomes Res.* 2019:1-13.

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