

,OPXMFEHF "UUJUVEF BOE 1SBDUJDF PG 7
"TTPDJBUFE 'BDUPST BNPOH)FBMUI \$BSF 1SF
'BDJMJUJFT &UIJPQJB

Destaw Bantayehu*

Debre Markos University and Gamby College of Medical Sciences, Joint MPH Program, EthiopiaSciences, Lahore, Pakistan

Keywords Health; Blood donation; Transfusion

Acronyms and Abbreviations

AAU: Addis Ababa University; ART: Antiretroviral erapy; BD: Blood Donation; CDC: Center for Disease control and prevention; EPI: Expanded program of Immunization; ERCS: Ethiopian Red Cross

*Corresponding author: Destaw Bantayehu, Debre Markos University and Gamby College of Medical Sciences, Joint MPH Program, Ethiopia, Tel: +251 (0) 911767379; Fax: +251 (0) 911767379; E-mail: destwab1@yahoo.com

Received June 26, 2015; Accepted July 30, 2015; Published August 08, 2015

Citation: Bantayehu D (2015) Knowledge, Attitude, and Practice of Voluntary Blood Donation and Associated Factors among Health Care Providers in Addis Ababa health Facilities, Ethiopia. *Occup Med Health Aff* 3: 209. doi:[10.4172/2329-6879.1000209](https://doi.org/10.4172/2329-6879.1000209)

Copyright: © 2015 Bantayehu D. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

growth of blood banks, transfusion services, and other related support services were noticed across the country [3].

Although there has been an increase of almost 8 million blood donations from voluntary unpaid donors from 2004 to 2011, there are chronic shortages of safe blood and blood products in many countries, so blood transfusion is not available for many of the world's most vulnerable populations [4].

Although, ideally blood transfusion is a safe process, there are a number of risks associated with transfusion such as; viral, bacterial and parasitic infection on recipient. At times when individuals lost large volume of blood due to serious accidents, obstetric hemorrhages or any other causes of anemia due to medical or surgical conditions, blood transfusion could be lifesaving procedures. Therefore, ensuring the availability of safe blood at all times would have greater value for saving life through transfusion for those who needed it most [5,6].

Blood services in Ethiopia have been mainly provided by the Ethiopian Red Cross Society (ERCS) since 1969. Blood bank and transfusion services include collection, processing, storage and provide human blood intended for transfusion. Blood from the ERCS serves only for the needs of 52% of the national hospitals in the country [2,7,8].

Although the Ethiopian Red Cross Society has been the one who took the lead and initiative in developing blood banking services in the country, blood transfusion services in Ethiopia are still rely on family and replacement donors [7].

Adequate and safe blood supply has remained a challenge in developing countries including Ethiopia. There is a high dependency on family replacement and remunerated blood donors in our environment which carries an attendant increased risk of transfusion transmissible infection.

In Ethiopia, family replacement blood donation accounts for 70% of the overall blood donations across the country. Furthermore, because of the high prevalence of some infectious disease; such as hepatitis B, C and HIV, selection of donors are often not easy [7,9].

Statement of the problem

Blood transfusion saves lives and improves health nevertheless access to equitable and safe blood is still challenging for many of those who need it most. Despite the fact that there is an increase of blood donations from voluntary unpaid donors in recent years (according to the International Federation of Red Cross and Red Crescent Societies (IFRC) 2012 report, 8 million more donations were recorded in 2011 when compared to 2004), there is shortage of active blood donors to meet the increased demands of blood. In addition to limited supply, the safety especially with regard to the risk of transfusion transmissible infection is also an issue and one of concerns especially in the developing countries [4,6,8].

Even though blood has an important value of

Citation: Bantayehu D

of knowledge, attitude and practice among the health care providers would be helpful to identify the gaps and implement appropriate strategies with in the institution.

Literatures on knowledge, attitude and practice of voluntary blood donations are hardly available in our settings. Furthermore, it is almost impossible to find a published literature particularly on health care workers in Ethiopia. Therefore, this research would help to fill the existing gaps in this regard.

Significance of the study

The results of this study will be beneficial for health personnel, planners, policy makers, Non-Governmental Organizations and others who are engaged in Blood donation activities. Hence, the findings of this research will be disseminated to the relevant bodies, actors and others who are involved in improving the Knowledge, Attitude and Practice of voluntary blood donation.

Voluntary unpaid blood donors are the safest group of blood donors and they could be the source of sustainable national blood supply sufficient for the country's blood demand. Having the findings of this study, policy makers can use of it to determine appropriate strategies to enhance voluntary blood donation practice among Health care workers (HCW) s.

HCWs, by virtue of their training and medical practices, are expected to be highly informed on the processes of donor blood procurement and the challenges of supply as well as the potential hazards of transfusion. The end result of this study would identify the possible gaps as well as potential area of intervention to improve KAP of health care providers.

Objectives of the study

General objective: To assess the knowledge, attitude and practice of health care providers and associated factors towards blood donation in Addis Ababa health facilities.

Specific objectives: To determine the knowledge of health care workers towards blood donation.

To find out the attitude of health care workers towards blood donation.

To assess the practice of health care workers towards blood donation.

To identify the factors affecting the knowledge, attitude and practice of blood donation

among health care providers (Figure 1).

Methods

Study design

Facility based cross-sectional study design were employed to conduct this survey.

Study area

The Study was conducted in both government and private health facilities in Addis Ababa city administration in October/November 2014. Addis Ababa, home of an estimated of 3,167,036 people (according to the 2007 national censuses), is located in the central part of the country.

According to Addis Ababa health bureau health institution data base the total number of health facilities in Addis Ababa city administration

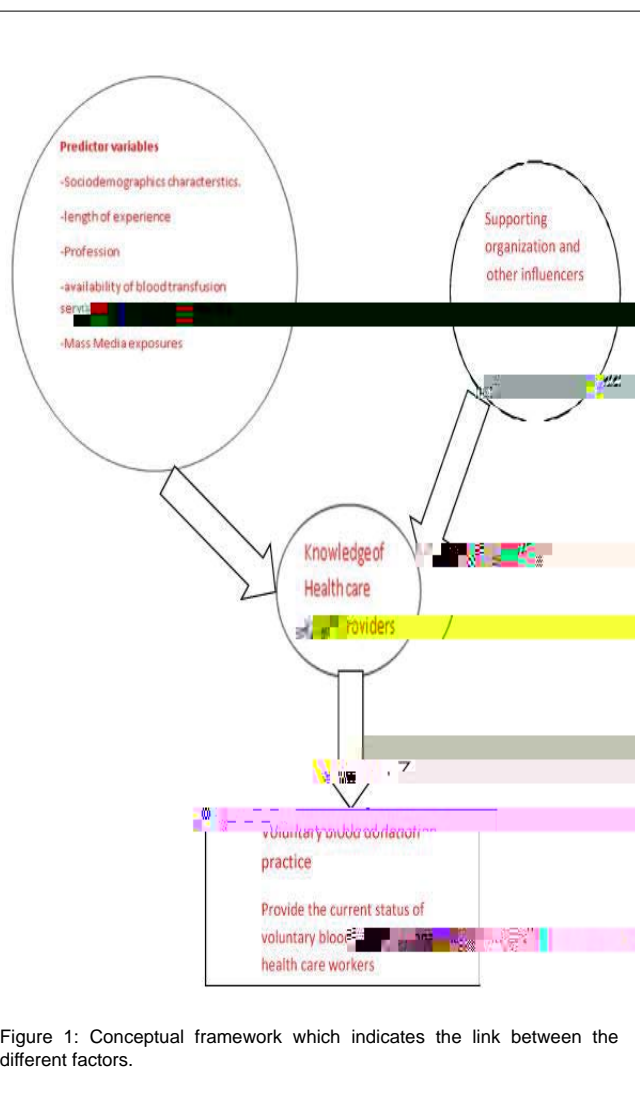


Figure 1: Conceptual framework which indicates the link between the different factors.

were 775. Of which 683 were either medium or higher clinics located across the city. Kolfe Keranio sub city has the largest concentration of clinics (105) while Gulele sub city accounted for 5.3% of the overall distribution [27,28].

In 2012 a total of forty nine hospitals were functional in the city about 33 of them being private owned and 3 of them were charity based facilities in which services are provided either for free or based on cost recovery. The remaining 13 hospitals were public facilities located in different sub cities of the capital. Bole sub city got the largest concentration of private hospitals (about 27%) followed by Arada subcity where 5 (15%) of the private owned hospitals located [29].

A total of 43 health centers were available across the city, majority of which were governmental institution and only 4 health centers were belong to private ownership. Moreover 42 health posts were operational in 2014 [28,29].

Among the overall nurses and physicians working in the country in 2013, Addis Ababa city administration accounts for being a home of 45% and 28% physicians and nurses respectively. In 2012 there were total of 3368 health professionals in Addis Ababa health facilities [28]

(Table 1).

Source population

All health care workers in Addis Ababa city administration working in the government as well as private or non-profit health institutions.

Study population

The study population were those health care workers (individuals) who were employees of selected institutions where the sample population was drawn.

Sample size

Sample size was determined based on the following assumptions; confidence level was fixed as (1- α) to be 95%, and a p value of <0.05 to be significant. The extent of blood donation practice among the study participants was taken as 50% since there is no published study which shows the prevalence of Knowledge or practice towards blood donation,

$$n_1 = \frac{Z^2 P (1 - P)}{d^2}$$

Where Z=standard score at 95% CI which is 1.96

P=the prevalence of knowledge, Attitude and practice of blood donation among health care workers. However, eventually the blood donation practice was the most important dependent variable to be determined; hence P for practice was set at 50% since there is no local study on blood donation practice among health care workers available.

d=the margin of error to be tolerated, 0.05

$$n = \frac{1.96^2 \cdot 0.5 \cdot (1 - 0.5)}{0.05^2}$$

n=384, plus 5% for non-response rate =404

Since multistage sampling technique was employed, a design effect of 2 was included; hence the total sample size needed to conduct the research was 808.

Therefore a total of 808 eligible health care workers were selected for comprehensive self-administered questioners using a structured pre-tested tool.

Sampling procedure

Multi stage sampling technique was executed. The primary procedure was to select the sub cities in which further selection of the health facilities undergo. Therefore, three sub cities namely Kirokos,

Arada and Bole were selected using lottery method among the existing ten administration sub cities of Addis Ababa. Subsequently all health facilities within those selected sub cities were stratified as clinics, health centres, hospitals and non-profit health institution for further selection of the health facilities where the data collection would take place. Based on the average number of health care workers estimated to present at each facility level, it was required to have 6 hospitals, 3 health centres and 9 clinics in order to fully suffice the sample size comfortably.

Selection of health facilities:

After listing down all the hospitals in each selected sub cities, a

Operational definitions

Safe blood: Means blood that is free from transfusion transmissible diseases, drugs, alcohol, chemical substances, or other extraneous factors that might cause harm or danger to the recipient.

Health care professional: Is an individual that provides preventive, curative, promotional or rehabilitative health care services for individuals or community.

Health Institutions: Government, private or NGO supported health facilities which provide curative, preventive, promotional and/or rehabilitative services to the population

Knowledge: Nine major questions which had 17 right answers were provided to each participants (since there were more than one correct

Remunerated donors:

| | | | |
|--|--|--|--|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

| | | | | |
|--|--|--|--|--|
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

| | | | | | | |
|--|--|--|--|--|--|--|
| | | | | | | |
|--|--|--|--|--|--|--|

Citation: Bantayehu D

| | | | | | | |
|---|-----|-----|-----|-------|-------|-------|
| Mass Media exposure towards blood transfusion | No | 33 | 133 | 1 | - | - |
| | Yes | 109 | 499 | 1.162 | 0.752 | 1.794 |
| 7 H V W H G I R U + , 9 | No | 10 | 35 | 1 | - | - |
| | Yes | 132 | 597 | 1.048 | 0.532 | 2.064 |

Table 8: Results of bivariate analyses of predictor variables towards attitude of VBD among health care providers in Addis Ababa health facilities, Ethiopia, Oct 2014

| Variables | | Attitude | | OR (Adjusted) | 95%C.I. | |
|-----------|--------|-------------|-----------|---------------|---------|-------|
| | | Unfavorable | Favorable | | Lower | Upper |
| Gender | Female | 99 | 298 | 1 | | |
| | Male | 43 | 334 | 2.348 | 1.572 | 3.509 |
| Age Group | " | 19 | 49 | 1 | - | - |
| | 23-29 | 90 | 333 | 1.234 | 0.685 | 2.225 |
| | 30-35 | 24 | 161 | 2.105 | 1.044 | 4.245 |
| | • | 9 | 89 | 2.872 | 1.189 | 6.936 |

Table 9: Factors associated with attitude of health care workers towards voluntary blood donation in Addis Ababa health facilities, Ethiopia, October 2014.

(Tables 8 and 9).

Multivariate analysis indicated that being male is significantly associated and increased odd of favorable attitude (AOR=2.35, 95%CI:

In the present study regular voluntary blood donors' accounted for 7.9% of the overall donors which shows a bigger disparity compared with what was reported in India where 3.3% of Indian medical students were participated in voluntary blood donation activities. 39.6% of Nigerian health care workers were also reported to have participated in voluntary blood a donation activity which is significantly higher than the current finding. An encouraging figure (42.2%) of voluntary blood donation practice were reported among Ethiopian Medical students were in the [10,24].

In the present study, the main reason for not donating blood by non-donors was reported to be because of no one has asked the respondents to donate blood which is in agreement with other findings in Nigerian studies. Respondents would go for VB donation if they were approached by someone to donate blood. This is also supported by a number of studies in the developing world [10,16,31].

In the present study it was found out that predominantly males were the major sources of blood donation more than females which is supported by a number of many other studies in Sub Saharan Africa and India [10,27,32-34].

However, in contrary to this, a study conducted in south-western Spain, revealed that 52.3% of donors were women compared to 47.7% of men. Other studies in developed world documented similar findings [33,34].

The current study also revealed a significant association between blood donation and gender. Although women are potential blood donors, there are a number of circumstances where they could not be as eligible as men like lactations and pregnancy may matter.

Gender, Service year as a health care professional, availability of blood transfusion services within the facility and Knowledge level of the respondents were found to be the most independently determinant factors of voluntary blood donation practice.

Individuals with longer years of service as a health care professionals is likely to come across with occasions where there is a need to donate blood than those individuals working just for few years. Similarly, individuals working in a facility where blood transfusion services are available are likely to be aware more about the importance of blood donation and subsequently they are likely to donate blood. Finally, as someone would anticipate, having adequate knowledge on voluntary blood donation leads the individuals to practice voluntary blood donation than individuals who have not had adequate knowledge.

Limitation

This study was able to illustrate the most determinant factors of

10. Benedict N, Usimenahon A, Alexander N (2013) Knowledge, Attitude, and Practice of Voluntary Blood Donation among Healthcare W