

KNOWLEDGE, ATTITUDE AND PRACTICE REGARDING BLOOD DONATION AMONG HEALTH PERSONNEL IN SELECTED BLOOD TRANSFUSION SERVICES

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ABSTRACT

Voluntary blood donors are the cornerstone of a safe and adequate supply of blood and blood products. For a safe blood transfusion service in our country, where comprehensive laboratory tests are neither possible nor pragmatic, it is best to switch over to 100% voluntary donations, as it is now established that only voluntary non-remunerated regular donation is the safest. Recruitment of safe donors is a challenging task. No blood bank, hospital or Government can sustain health care without adequate blood from such donors and Blood Donor Organisations plays a very crucial role in this endeavour. The present study is about knowledge, attitude and practices regarding blood donation among health personnel in a selected blood transfusion services of Kurnool and Hyderabad. A cross-sectional study was conducted among 100 health personnel from the selected blood transfusion services through a structured questionnaire.

In the sample size of 100, overall knowledge of health personnel regarding blood donation is 80% and 19% with average knowledge. The reasons for blood donation, 57% of them believed that blood donation is to serve humanity, 26% believes that because of family replacement and remaining 9% and 8% believed that due to voluntary and good for own health. It was also found that the reasons of non-donation by non-donors, 45% believed that as the blood donors are unfit to donate due to weakness and 41% believed that because of fear of needle.

In this study, while evaluating each and every blood transfusion service, it was found that the percentage of voluntary non-remunerated donors who are safest donors is of less percentage while compared to that of family replacement donors whose percentage is high in each and every blood bank except the Chiranjeevi blood bank. It is concluded that, Voluntary non-remunerated donors who give their blood regularly are the safest in comparison to those who give their blood when a member of family or community requires it (family or family replacement donors).

KEYWORDS: Attitude, Blood Donation, Blood Transfusion Services, Donors, Health Personnel, Knowledge, Practice

INTRODUCTION

A blood donation occurs when a person voluntarily has blood drawn and used for transfusions or made into medications by a process called fractionation. The safety of blood components and derivatives depends mainly on the quality of blood donors. However, there are other infectious agents that have a long incubation period (window) and can be transmitted through transfusions, even though infected persons do not show any symptoms. Among these transfusion-transmitted infections (TTI) the following can be mentioned: the human immunodeficiency virus (HIV), hepatitis B (HBV) and hepatitis C (HCV) viruses, the human T-cell lymphotropic virus (HTLV) and Trypanosoma cruzi.

To guarantee healthy and low-risk blood donors, it is very important to have an efficient recruitment and selection process. In general terms, it has been recognized that voluntary non-remunerated donors who give blood regularly are the safest, in comparison to those who give their blood when a member of their family or community requires it (family or family replacement donors) or those who give their blood for money or other form of payment (professional or commercial donors). People who give their blood under pressure or for money are less likely to reveal problems that make them unsuitable donors therefore; they present a potentially greater risk to the safety of the blood supply. Voluntary donors give their blood on their own free will and receive no money or other form of payment in exchange. In addition, if they do it on a regular basis, they are safer as their blood is tested frequently and in many cases they collaborate during emergencies.

In spite of the importance of voluntary donation, its percentage is very low in India. At a national level for 1990-1997, only Aruba, Canada, Curacao, Cuba and the United States reported 100% voluntary donations. Even though some countries still recognize the existence of up to 24% commercial or professional donors, most blood units obtained in the region come from family replacement donors. The safest blood donors are voluntary, non-remunerated blood donors from low-risk populations. Despite this notion, family/replacement donors still provide more than 45% of the blood collected in India

Need for Study

In India, out of a total population of about 1000 million, the gap between demand and supply can be bridged by carrying out a proper assessment so that the demand can be met through planned donor recruitment and planned production of blood components and plasma derivatives. The need for the present study arises on account of the above gap and also to identify and assess the barriers that prevent people from becoming blood donors and also to recommend strategies to increase the blood collection.

Objectives of Study

- To assess the knowledge level, attitude/beliefs and practices of the health personnel regarding blood donation in blood transfusion services.
- To determine safety of blood through the quality donors in blood transfusion services

METHODOLOGY

This study is based on the responses obtained from 100 samples from the selected blood transfusion services in Kurnool and Hyderabad. Data was collected during the period of February and March, 2014. The selection of blood transfusion services were based on purposive sampling. A structured questionnaire was given to all the health personnel in the blood banks under study.

Scope of the Study

It was conducted to know the knowledge, attitude and practices of health personnel and also the safety and quality of blood through the quality donors in blood transfusion services.

Research Design

It is a descriptive study which describes the level of knowledge, attitude, beliefs and practices of health personnel towards blood donation.

Sample Size and Technique

The sample size is 100. Convenience sampling as per the availability of sample during data collection period is used

Data Collection

Primary data was collected from health personnel by administering a questionnaire and also secondary data was collected from books, previous research work reports, blood donation websites (internet) etc.

REVIEW OF LITERATURE

Lownik, et al, have examined eighteen KAP studies conducted in seventeen developing countries and the common following themes emerged from the study: misinformation about blood donation, fear of blood donation, willingness to donate for family and friends, concern about selling blood and a failure to transfer positive attitudes into actual blood donation.

Maqbool Alam, Din Bel. D. Masalmeh conducted a cross sectional study to assess the knowledge, attitude and practice regarding blood donation among the Saudi population. The study concluded that there are misconceptions regarding blood donation among the Saudi population. This needs education and motivation through dissemination of information regarding blood donation particularly on electronic media. A cross sectional study by Gilani I, Kayani ZA, Atique M, to assess Knowledge, Attitude and Practices regarding voluntary blood donation prevalent in medical and paramedical personnel and are having basic level of awareness on the subject. It is concluded from their study that there is an urgent need to create and strengthen programs for motivation, recruitment and retention of Voluntary Non-remunerated blood Donors (VNDs).

Javadzadeh Shahshahani, H. (2007), has done a cross-sectional study, the aim was to assess barriers of donation of blood by women and the level of knowledge, attitude and practice regarding blood donation. The study identified the most important barriers for donating blood were anaemia, fear, lack of time and difficulty in access to donation sites. A significant percentage of women had false beliefs about blood donation. A survey done by Zaller, N et al., (2005), to assess knowledge, attitude and practice towards blood donation in several populations in a city in Western China, reveals that factors motivating blood donation included social pressure, desire to know screening results and altruism. Inhibiting factors included fear of contracting an infection and other adverse health effects, including loss of vitality.

An anonymous survey of randomly selected sample of medical personnel from Surgical Hospital, Paediatric Hospital and Institute for Health Protection was conducted to determine donor status, age, education level, motives for donation, non-donation and ceasing blood donation and the study revealed that current donors (CD) represent 20.9%, former donors (FD) 23.2% and non-donors (ND) 55.9%. Main motive for blood donation is altruism (93.2%). Health issues are the main reason for ceasing blood donation (53.1% of FD) and for non-donating blood (76.3% of ND). S., Uma R., Arun P., Arumugam have done a study to find the level of the knowledge, attitude and practice of blood donation among voluntary blood donors. The study revealed that majority of the donors was willing to be regular donors. The donors showed positive effects like a sense of satisfaction after the donation.

Data Analysis and Interpretation

The analysis and interpretation of the data collected from the health personnel is organized and presented in three parts, i.e., part 1- frequency of overall knowledge scores, part-2 overall attitude /beliefs and part-3 overall practices of the health personnel regarding blood donation.

Part -1 Knowledge among Health Personnel Regarding Blood Donation

The data related to the knowledge of the age limit of the donors, the minimum inter-donation interval of donors and regarding quantity of blood drawn from donors is summarised and shown in table 1

Table 1: Knowledge Regarding Age Limit, Inter-Donation Interval and the Quantity of Blood Drawn from Donors

Knowledge of the Age Limit of the Donors		Knowledge of the Minimum Inter-Donation Interval of Donors		Quantity of Blood Drawn from Donors	
Age Limit of Donors	Number of Health Personnel	Inter-Donation Interval	Number of Health Personnel	Quantity of Blood	Number of Health Personnel
18 – 25 years	0	1 – 2 months	0	150 – 250 ml	0
18 – 30 years	0	2 – 3 months	12	250 – 350 ml	2
18 – 35 years	1	3 – 4 months	84	350 – 450 ml	98
18 – 45 years	13	4 – 5 months	1	450 – 500 ml	0
18 – 60 years	86	5 – 6 months	3	500–1000 ml	0

Source: Primary data

The above table reveals that majority of health personnel have knowledge regarding the age limit of donors i.e., 18-60 years, the minimum inter-donation interval is 3-4 months and the amount of blood taken during each donation is 350-450 ml.

Knowledge of the health personnel regarding blood transfusion infections, like human immune deficiency virus, Human T- cell lymphotropic virus and Hepatitis B and C, tuberculosis and also Knowledge regarding safe blood donor and risk factors that affect the safety of transfusions are presented in table 2.

Table 2 also reveals that the safest blood donor is the regular voluntary non-remunerated donor, as their blood is checked frequently. The risk factors that can affect the safety of transfusions are sexual promiscuity, unprotected anal sex, injecting the ill-legal drugs, tattooing and blood rituals.

Table 2: Knowledge Regarding Blood Transfusion Infections, Safe Blood Donor and Risk Factors

Knowledge Regarding Blood Transfusion Infections		Knowledge Regarding Safe Blood Donor		Knowledge Regarding Risk Factors	
Blood Transfusion Infections	Number of Health Personnel	Type of Donor	Number of Health Personnel	Risk Factors	Number of Health Personnel
(a) HIV	0	Commercial donor	0	Sexual promiscuity	5
(b) HTLV	0	Professional donor	0	Unprotected anal sex	0
(c) Hepatitis B and C	3	Regular voluntary non-remunerated donor	69	Injecting the ill-legal drugs	0
(d) Tuberculosis	0	Family replacement donor	28	Tattooing and blood rituals.	0
(e) a, b and c	97	Regular donor	3	All the above	95
Total	100	Total	100	Total	100

Source: Primary Data

The results of the knowledge of health personnel regarding signs and the physical conditions are shown in Table 3. The signs and the physical conditions in potential donors would be dangerous for the recipient are Herpes zoster and brucellosis, prolonged diarrhoea, swollen glands and skin rashes, HIV/AIDS.

Table 3: Knowledge Regarding Signs and the Physical Conditions and Tests of the Donors Blood

Signs and Physical Conditions	Number of Health Personnel	Tests	Number of Health Personnel
(a) Herpes zoster and brucellosis	0	ABO, Rh and antibodies	1
(b) Prolonged diarrhea	0	Anti-HIV 1 and Anti-HIV 2	1
(c) Swollen glands and skin rashes	1	Anti-HCV and HBSag	9
(d) HIV/AIDS	7	Anti trypanosome cruzi and syphilis	0
(e) All the above	92	b, c and d	89
Total	100	Total	100

Most of them had knowledge regarding the tests that are carried out to the donor’s blood to prevent the transmission of diseases. They are Anti-HIV 1 and Anti-HIV 2, Anti-HCV and HBSag, Anti trypanosome cruzi and syphilis.

Table 4 shows the frequency and percentage distribution of health personnel according to total knowledge score secured regarding blood donation

Table 4: Overall Knowledge Level of Health Personnel Regarding Blood Donation

Level of Knowledge	Frequency	Percentage
Below Average (<60%)	1	1%
Average (60-80%)	19	19%
Good (>80%)	80	80%
Total	100	100%

Source: Primary data

Part- 2 Attitude among Health Personnel Regarding Blood Donation

In this study, while evaluating the attitude of the health personnel regarding the reasons of blood donation by blood donors during their experience in blood banks, it was found that 26% responded due to the family replacement, 8% due to the voluntary donation, 57% to serve humanity, 9% due to good for own health, none of them responded to the option of religious duty. The reasons of non-donation by non-donors are 10% of them mentioned that nobody approached them, 45% are unfit to donate due to weakness, 1% of them have reserved for their relatives if needed in future, 41% have fear of needle and 3% of them are afraid of disease transmission.

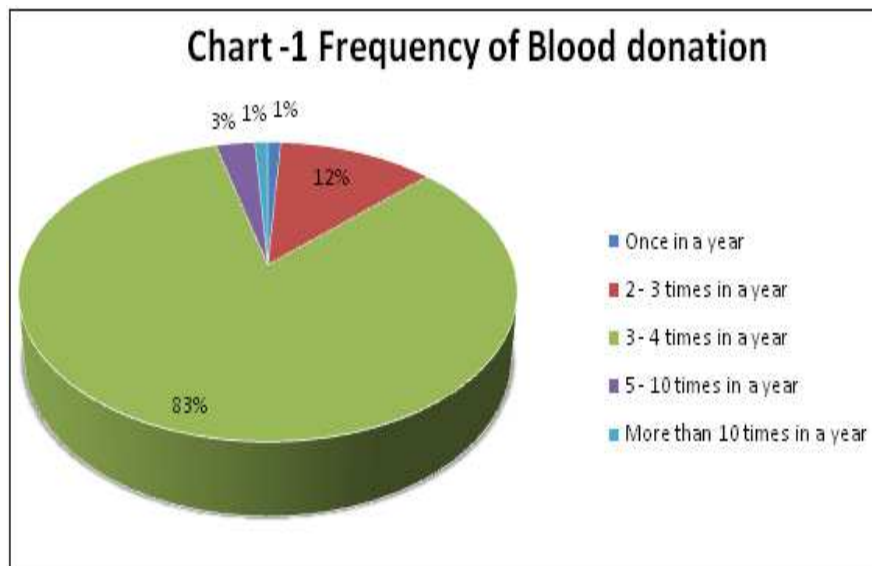


Chart 1

The above chart shows the frequency of blood donation. 83% of them have an attitude of donating blood 3-4 times in a year. 12% of them donate 2-3 times in a year. The major reasons of motivation for blood donation are, 41% of them mentioned due to friends/relatives, 9% because of outreach programs, 7% because of blood bank staff, 7% due to newspapers/books and 36% due to radio/television. The attitude of the health personnel regarding incentives for voluntary blood donation, majority (77%) of them said blood donor certificates are the best possible approach to appreciate the blood donors 23% of them opted for blood credit cards.

Part- 3 Practices among Health Personnel Regarding Blood Donation

In the study while evaluating the practices of health personnel regarding blood donation in six blood transfusion services i.e., Indian Red Cross Society, Kurnool, Government General Hospital, Kurnool, Viswabharathi Hospital, Kurnool, R.R. Hospital, Kurnool, Apollo blood bank centre, Hyderabad and Chiranjeevi blood bank, Hyderabad, revealed that all the health personnel who are working in all the above blood bank services are following each and every practice related to the blood donor.

The health personnel are providing pre-donation information and orientation, conducting health checks before blood donation, proper selection of potential blood donors, and proper supervision of blood donors after donation, post donation information and orientation and through blood analysis after donation. Following each and every practice ensures that it reduces the blood transfusion infections as well as safe selection of the blood donor and also results in safe and quality transfusion of blood.

The following tables show the number of donors who come for blood donation among the six Blood Transfusion services, types and percentage of blood donors.

Table 5: Number of Blood Donor among the Blood Transfusion Services

Sl. No	Name of the Blood Transfusion Service	Number of Blood Donors		
		Per Day	Per Month	Per Year
1	Indian Red Cross Society, Kurnool	20 – 40	1000 - 1200	12000 - 15000
2	Government General Hospital, Kurnool	30 – 40	1000 - 1200	12000 - 15000
3	Viswabharathi Hospital, Kurnool	10 – 15	300 - 400	4000 - 5000
4	R.R Hospital, Kurnool	8 – 10	200 - 300	3000 - 4000
5	Apollo Blood Bank Centre, Hyderabad	30 – 40	1100 - 1200	12000 –13000
6	Chiranjeevi Blood Bank, Hyderabad	30 – 50	1000 - 1500	15000 –18000

Table 6: Types of Blood Donors and their Percentage Distribution

Sl. No.	Name of the Blood Transfusion Service	Type of Blood Donors				
		Voluntary Non-Remunerated Donors (%)	Family Replacement Donors (%)	Commercial Donors (%)	Directed Donors (%)	Autologous Donors (%)
1	Indian Red Cross Society, Kurnool	27	70	0	3	0
2	Government General Hospital, Kurnool	20	75	0	5	0
3	Viswabharathi Hospital, Kurnool	20	72	0	6	2
4	R.R Hospital, Kurnool	15	80	0	5	0
5	Apollo Blood Bank Centre, Hyderabad	2.50	97	0	0.50	0
6	Chiranjeevi Blood Bank, Hyderabad	70	30	0	0	0

Chart 2 shows the percentage distribution of the blood donors that are represented through the different blood transfusion services, and it is found that Voluntary non-remunerated donors' percentage is very less whose requirement is essential for the safe blood transfusion, as their blood is tested frequently for the transfusion transmitted infections. Family replacement donors' percentage is very high, where there is a chance of getting transfusion transmitted infections.

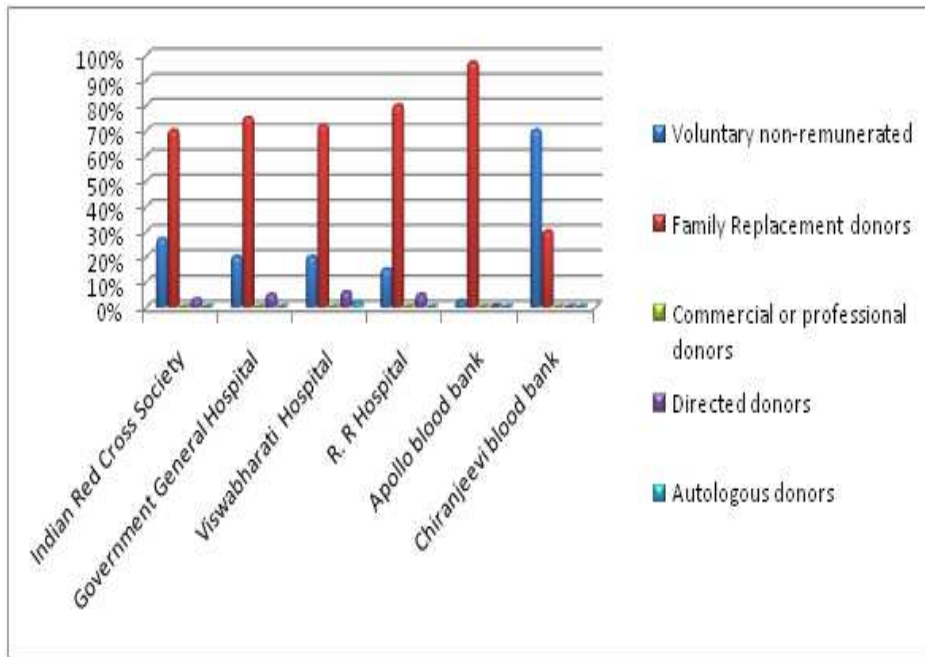


Chart 2: Percentage Distribution of the Type of Blood Transfusion Services

The data that is collected from the different blood transfusion services, as the above Chart represents that the family replacement donors' percentage is very high in each and every blood bank and Voluntary non-remunerated donors' percentage is very less in each and every blood bank except the Chiranjeevi blood bank.

SUGGESTIONS AND RECOMMENDATIONS

The following suggestions emerge from the study:

- Educating the community on the beneficial aspects of blood donation and harmful effect of collecting blood from paid donors.
- Assist Organizations, Clubs, Colleges, Public and Private Institutions in conducting voluntary blood donation drives and arranging for motivational talks to enable progressive increase in the number of voluntary non-remunerated blood donors every year.
- There should be a planned programme to create awareness amongst the general public so as to ensure a regular supply of good quality blood without having to experience seasonal shortages. The educational programme, therefore, should be so designed that the community understands in depth the advantage of regular blood donation.
- Short-term training courses for donor motivators, social activists, trainers, blood bank personnel and volunteers who have an aptitude to serve the cause.

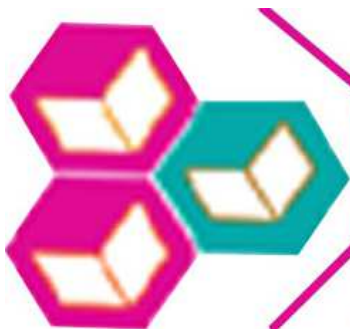
CONCLUSIONS

It is concluded from the study that there is an urgent need to create and strengthen programs for motivation, recruitment and retention of Voluntary Non-remunerated blood Donors (VNDs) There are misconceptions regarding blood donation among the population. This needs education and motivation through dissemination of information regarding blood donation particularly on electronic media.

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