

## ORIGINAL ARTICLE

## Knowledge and Practice of College Students of Dhaka on Blood Transfusion and Donation

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### Abstract:

*A cross sectional study was done with the objective to assess the knowledge and practice of educated people on blood transfusion and donation. A sample of 144 students of Physical Training College of Dhaka were selected purposively and interviewed face to face by using pre-tested structured questionnaires during college hours. Sources of blood for transfusion were known to most of the respondents (92.98%). About 95 % of them told that diseases might be transmitted through unscreened blood transfusion and they mentioned diseases like AIDS, Hepatitis, Malaria, Syphilis etc, the agents of which might transmit through blood transfusion. Most of them (98%) could correctly recognize professional blood donors, alcohol and drug addicts and long driving truck drivers as high risk people commonly transmitting the diseases. Majority of them mentioned the common diseases like AIDS (51.80% responses), hepatitis (21.17% responses), malaria (12.61% responses), syphilis (4.50% responses) should be screened before donation. About 89% told that the diseases spreading through blood transfusion are preventable. The respondents had knowledge about common measures for prevention of blood borne diseases (81.86% of the total answers). Television, radio, newspaper and textbook were the most common sources of their information about blood transfusion and donation which constituted 83.22% of the answers. Only 15.97% of the respondents donated blood on different occasions and 14.29% donated more than once. About 81% said that blood could be donated every after three to four months and majority (54.87%) knew the minimum age (18 -19 years) for donation of blood. Rational blood transfusion can minimize the incidence of blood borne diseases. Mass campaign should be initiated to encourage people for blood donation.*

### Introduction:

Blood is declared as first valuable life saving drug by WHO. If blood is needed for a patient, it has to be met by only blood. Researchers have agreed that blood can not be

synthesized artificially. There is no substitute for it. Human being is the only source of blood for transfusion. Blood transfusion is indicated to save life from severe injuries, surgical and gynecological operations, obstetric causes and other haematological disorders. Safe blood transfusion is of utmost importance. Most of the demand of blood transfusion is met from the professional blood donors in the country. The voluntary organizations collect about 60,000 bags of blood from the volunteers annually. Among them, two third bags are

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collected by Sandhani, a voluntary organization of medical and dental students and rest by the blood centres of the Red Crescent Society and private organizations. Volunteers contribute only 24% of the demand of our country which is around 2.5 lac bags annually. Professional donors fulfill about 47% of our requirement and rest is met by exchange donations<sup>1</sup>. About 2-2.5 crore people can donate blood, but only 60,000 people are voluntarily donating blood. The first blood bank in our country was established in Dhaka Medical College Hospital in 1950. By the year 1968, three more banks were opened at Sir Salimullah Medical College Hospital, Chittagong Medical College Hospital and Rajshahi Medical College Hospital. In the year 1952, there was a committee named 'Blood Transfusion Service Committee'. In 1976, Government constituted a council stated 'Bangladesh National Council of Blood Transfusion Service' with a view to gain momentum in the field of blood donation and transfusion. Subsequently, all the medical colleges and most of the district hospitals started blood banks. Now a days there are lot of private laboratories and hospitals in the country which have their own blood banks.

Sandhani set out its programme on the fifth February, 1977. Voluntary blood donation movement was started in Bangladesh on November 2, 1978 by the same organization. The Bangladesh Red Crescent Society started its movement on May 1981<sup>2</sup>. 'Badhan' another voluntary blood collection organization started its function in October, 1997 at Shahidullah Hall of Dhaka University. This organization alone

collected 11,500 bags of blood in the last year from the University students. Before, only 5% of the students of Dhaka University knew about their blood group which increased to 95% now<sup>3</sup>. Some altruistic organizations like Lions Club and Rotary Club help in motivation and organization of the blood donation programmes.

In our country, many of the professional blood donors are addicted to drugs and have the habit of using IV drugs sharing common needles. So, they contract diseases like hepatitis, AIDS and syphilis. In addition, malaria and cytomegalovirus may be transmitted through transfusion. Therefore, there is need to test blood of the donors before collection. Prevalence of diseases through transfusion is rising up due to ignorance of the general people and unscrupulous blood trading by certain quarters. The aim of this study is to assess the knowledge of educated citizens about blood transfusion and to know the practice of blood donation.

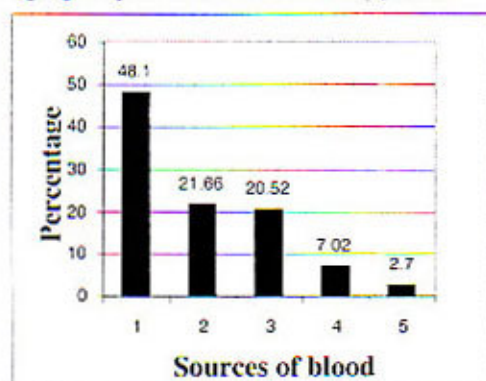
#### **Materials and method:**

It was a descriptive type of cross sectional study with one-step stratification, conducted among the students of Physical Training College, Mohammadpur, Dhaka, in October, 2003. A sample of 144 students was selected purposively. The questionnaire contained both open and close ended questions. Data were collected through face-to-face interview from two categories of students consisting of both males and females. The interview session was conducted during college hours. Data were processed with the help of electronic calculator.



**Results:**

Out of 144 students 60% were in the age group between 25 and 30 years. All of them were young adults and 32.64% were within the age group between 21 and 25 years.



**Fig.-1:** Knowledge about sources of blood for transfusion (1-Bloodbank, 2-Hospital/clinic, 3-Sandhani, 4-Not known, 5-Professional donors).

Average age of the students was  $26.71 \pm 2.8$  years. Majority of the students were only graduates (80.56%) and rest were master degree holders (19.44%). Most of the respondents (95.14%) told that diseases might be transmitted through unscreened blood transfusion. Six respondents said that blood transfusion would not transmit disease and only one of the respondents had no knowledge about it. Most of the respondents (92.98%) knew about common sources of blood for transfusion (Fig.- 1)

**Table-I:** Knowledge about the diseases transmitted through blood transfusion

Disease	Response	Percentage
AIDS	111	53.37
Hepatitis	46	22.12
Malaria	21	10.09
Syphilis	15	7.21
Others	15	7.21
Total	208	100

The respondents, who had knowledge about occurrence of disease from transfusion, mentioned more than one disease. Out of the total answers (208), 53.37% was related to AIDS, 22.12% to hepatitis, 10.09 % to malaria, and 7.21% to syphilis (Table-I).

**Table-II:** Knowledge about the high risk people transmitting the diseases

High risk people	Number	Percentage
I. V. Drug users	47	34.30
Alcohol users	46	33.58
Others	20	14.60
Professional donors	21	15.33
Not Known	03	2.19
Total	137	100

Only three of the respondents could not tell who the high risk people were likely to transmit disease through transfusion. Rest of them (97.81%) mentioned IV drug users (34.30%), alcohol users (33.58%) and professional blood donors (15.33%) as the common high risk people (Table-II). There were multiple answers from the respondents about the diseases to be screened before donation of blood. Majority of them mentioned the common diseases like AIDS (51.80% responses), hepatitis (21.17% responses), malaria (12.61% responses), syphilis (4.50% responses) should be screened before donation. Most of the respondents (88.88%) told that the diseases spreading through transfusion were preventable and 6.25% said that they were not preventable and 4.87% did not know if they were at all preventable.



**Table-III:** Sources of knowledge about measures for prevention of disease transmitted through blood transfusion

Source	Number	Percentage
Television	31	22.63
Radio	29	21.17
Newspaper	29	21.17
Textbook	25	18.25
Friends	12	8.76
Poster/signboard	07	5.10
Others	04	2.91
Total	137	100

Television, radio, newspapers and textbooks were the most common sources of information about blood transfusion and donation as stated by 83.22% of the students (Table- III). Only 23 students donated blood (15.97%). Of them 86.95% donated once, 8.05% twice, and 5% four times in their life time. They opined that blood can be donated after every 15 days to one year. But most of them (80.56%) said that blood can be donated after every three to four months.

It has been observed from the study that 54.87% of the respondents said that 18 to 19 years is the minimum age for donation of blood. About 19% of the students did not know the minimum age for blood donation (Table-VI).

**Table- VI:** Knowledge about eligible age for blood donation

Age (years)	Number	Percentage
14-15	05	4.47
16-17	07	4.86
18-19	79	54.87
20-21	16	11.11
22-23	06	4.17
24-25	03	2.08
Not known	28	19.44
Total	144	100

### Discussion:

This study was undertaken mostly to assess knowledge of the educated people on blood borne diseases through transfusion, overcoming the problems and to know the sources of acquiring their knowledge and practice of blood donation. Most of the students (95%) knew that blood might transmit diseases if it is not properly screened. Similar study conducted on the students of Dhaka University in 1994 found that only 29.50% students had knowledge about spread of diseases through blood transfusion<sup>1</sup>. Differences of knowledge between the two groups might be due to long gap of about 10 years between the studies in two different institutions, dissemination of more information on blood transfusion through various mass media and inclusion of topic in the course curriculum of physical training college.

The students were aware of the common diseases caused by transfusion, such as AIDS, hepatitis, malaria, and syphilis. Many of them mentioned more than one measures for prevention of diseases. Common measures for prevention mentioned by them were avoiding blood from professional donors, screening before transfusion and avoiding common needles for injections. Similar study in Pakistan revealed that almost all (95%) students knew that blood transfusion was an important source of transmitting these infections. Wearing gloves (87%) and safe disposal of sharps waste (98%) were known by the students to be the ways to protect against these infections<sup>4</sup>. The students got information about blood transfusion mainly from mass media (64.97%). Textbook had also role in increasing knowledge about transfusion. A study in Togo found that



nearly all the people (96, 33%) knew about blood donation in Lome and they have received information mainly from friends, media and sensitization by the National Blood Transfusion Centre (CNTS).<sup>5</sup>

Quite a good number of the respondents (80.56%) had knowledge of interval which is estimated to be 3-4 months in between donations, and majority of them (65.98%) mentioned the eligible age for donation of blood that ranges from 18 to 21 years. Few of them mentioned that blood could be donated even at the age of 14 years.

Blood donation eligibility guidelines prescribed by the American Red Cross stated that a person giving blood for transfusion should be at least 17 years old or 16 years old if allowed by state law and not have donated blood in the last eight weeks (56 days). The guidelines also suggested that many other conditions of the donors must be fulfilled before donating blood, such as haemoglobin level, blood pressure, infection, cancer, chronic disease, intravenous drug use, medication, STDs, pregnancy and nursing. Red Cross stated that those who have ever used IV drugs that were not prescribed by a physician are not eligible to donate blood. This requirement is related to concern about hepatitis and HIV<sup>6</sup>. This study revealed that the respondents' knowledge on the same issue is in line with the above criteria. Almost all (97.81%) the respondents had knowledge of the commonly encountered high risk people, such as IV drug users, alcohol users, professional blood donors, long driving truck drivers. Children suffering from thalassaemia sometimes need three or more transfusions per year. Transfusion dependent children are at risk and more prone to acquiring various transfusion transmitted infections, such as

hepatitis B, cytomegalovirus, syphilis and others<sup>7</sup>.

Only 23 members of the sample (144) donated blood of which only two were females with male to female ratio 11.50:1 and 20 (86.95%) of them donated blood only once. In a study conducted in Rajshahi it was shown that male to female ratio regarding blood donation was 17.97:1<sup>8</sup>. It is evident from both the studies that female donors were far less than the males. This might be due to lack of motivation and family restriction from parents or husbands, as most of them are dependent in the context of cultural norms of Bangladesh.

Rational blood transfusion can minimize the incidence of blood borne diseases. Transfusion should be deferred until logically indicated. Regarding blood transfusion and donation mass awareness programme through mass media should be initiated to prevent spread of dreadful diseases.

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