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Research Article

**KNOWLEDGE, ATTITUDE AND PRACTICES OF  
VOLUNTARY BLOOD DONATION AMONG MEDICAL  
STUDENTS OF AIMC**<sup>1</sup>Zauraiz Anjum, <sup>2</sup>Zemal Tariq, <sup>3</sup>Hajra Tariq, <sup>4</sup>Neehal Wali<sup>1</sup>Fatima Jinnah Medical University, Lahore Pakistan, <sup>2</sup>Gujranwala Medical College, Gujranwala Pakistan, <sup>3</sup>Allama Iqbal Medical College, Lahore Pakistan,<sup>4</sup>Maimonides Medical Center Brooklyn New York USA.

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**Abstract:**

**Background:** Blood is an essential component of life. In emergency situations like road traffic accidents, complications of pregnancy and childbirth and various blood disorders, voluntary blood donation is the best way to meet the blood requirements and college students form a large and healthy population of potential donors.

**Objective:** To access the knowledge, attitude and practices of voluntary blood donation among medical students.

**Material and Methods: Study Design:** Cross sectional study.

**Study Setting and duration:** Allama Iqbal Medical College. Three months (April 2017-June 2017).

**Inclusion criteria:** All MBBS students of Allama Iqbal Medical College, both female and male students (First Year-Final year MBBS) and hostellites and day scholars (First Year-Final year MBBS)

**Data Collection and analysis:** Self-administered questionnaires were distributed among 250 participants. Data will be analyzed by SPSS version 21.0.

**Results:** 250 respondents 125 males and 125 females participated in our study in which 244(97.6%) of students knew their blood group, 100(40%) considered it to be a good deed and only 76(30.4%) had donated blood in the past among them 11(4.4%) were regular donors.

**Conclusions:** The knowledge of the students about blood donation was high but practice of blood donation was low.

**Key words:** Knowledge, attitude, practices, students, blood donation

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**INTRODUCTION:**

Blood donation saves millions of lives. Demand for safe blood increases every day because of increasing population, urbanization, trauma cases, pregnancy, major surgeries, patients with diseases like thalassemia, haemophilia, and chemotherapy [1]. A study done in Nnamdi Azikiwe University of Awka, out of 294 respondents 95.9% medical and 93.2% non-medical students had heard of blood donation while only 59.5% of respondents donated blood [2]. Medical students showed better knowledge but comparatively less practice. Out 145 respondents of PDU Medical College Rajkot 36(24%) of participants donated blood in the past only 5(3.3%) of them were regular donors 20(13.3%) were voluntary and 16(10.6%) donated to only friends or relatives [3]. Most frequent indications for donation were thought to be hemorrhage, traffic accidents, pregnancy and surgery [4]. In South India knowledge on blood donation was observed as good (42.7%), average (43.9%) and poor (13.4%) not associated with gender [5]. Students who were past donors had more knowledge about age limit, amount of that can be drawn and blood should be screened before transfusion [6].

In under developed countries like Ethiopia above half of the participants have poor knowledge (59.6%) and more than half show negative attitude contrary to developed countries [7]. Among students the percentage of blood donation increases with age and knowledge [8]. Medical students although considered as role models but are reported to donate less than general population [9]. Blood donor students were more positive towards donating as compared to non-donors [10].

The maximum donation was by students (28.01%) as compared to businessmen (18.61%), the service sector (17.28%), and professionals (9.12%) [11]. In a study of 700 respondents the average age of male donors was 30 years whereas the mean age of female donors was 28 years [12]. False beliefs regarding blood donation were highest among non-donors (22.75%) and lowest among voluntary donors (3.5%) [13]. Most of the students will donate for an incentive such as badges, certificates, refreshments, T-shirts and for free blood tests. Blood donation was mostly done for friends (24.6%) and relatives (57.4%) [14]. Paid donors are more prone to transmission of blood borne infections [15].

Reasons for non-donation among students include no one asked to donate (25.2%), unfit to donate (16.5%),

fear of needle (6.3%) and their blood may be sold (3.9%) [16]. Factors which motivate students for donation include empathy and selflessness [17]. The male students are more willing to donate blood (66.2%) as compared to female students (33.8%) [18]. Age, sex, religion and self-perceived health status were significant factors that influence blood donation [19]. Awareness sessions help to remove misconceptions and to create positive attitude towards voluntary blood donation [20].

**OBJECTIVES:**

To access the knowledge, attitude and practices of voluntary blood donation among medical students.

**MATERIALS AND METHODS:**

**Study Design:** Cross sectional study.

**Study Setting:** The study was conducted in Allama Iqbal Medical College.

**Duration of Study:** Three months.

**Sample Size:** 250 students

**Sampling Technique:** Non-probability / convenient sampling

**Sample Selection:**

**Inclusion criteria:** MBBS students of Allama Iqbal Medical College.

> Female and male students (First Year-Final year MBBS)

> Hostellites and day scholars (First Year-Final year MBBS)

**Exclusion Criteria:** Nursing students, medical lab technician students and the MBBS students not willing to give consent.

**Data Collection Procedure:** 250 students those fulfilling this inclusion criteria will be included in our study. After a verbal informed consent a structured questionnaire will be handed over. All the information was collected in this structured questionnaire.

**Data Analysis Procedure:** Data was analyzed by SPSS version 21.0. For quantitative variables mean and standard deviation will be computed and for qualitative variables frequency and percentages will be computed.

**RESULTS:**

| N              | 250     |
|----------------|---------|
| Mean           | 20.964  |
| Std. Deviation | 1.72004 |
| Minimum        | 17      |
| Maximum        | 30      |

**Table no. 2 General knowledge about blood transfusion**

| Knowledge about blood transfusion                                      | Yes       |         | No        |         |
|--|-----------|---------|-----------|---------|
|  | Frequency | Percent | Frequency | Percent |
| <b>Know your blood group</b>   | 244       | 97.6    | 6         | 2.4     |
| <b>Test for blood borne infections (HIV)</b>                           | 227       | 90.8    | 23        | 9.2     |
| <b>Test for blood borne infections (Syphilis)</b>                      | 221       | 88.4    | 29        | 11.6    |
| <b>Conditions in which one cannot donate blood (HIV)</b>               | 242       | 96.8    | 8         | 3.2     |
| <b>Conditions in which one cannot donate blood (Hepatitis B)</b>       | 242       | 96.8    | 8         | 3.2     |
| <b>Conditions in which one cannot donate blood (Hepatitis C)</b>       | 243       | 97.2    | 7         | 2.8     |
| <b>Conditions in which one cannot donate blood (Syphilis)</b>          | 241       | 96.4    | 9         | 3.6     |
| <b>Conditions in which one cannot donate blood(Underweight)</b>        | 244       | 97.6    | 6         | 2.4     |
| <b>Conditions in which one cannot donate blood(any blood disorder)</b> | 243       | 97.2    | 7         | 2.8     |

**Table no 3: Knowledge about blood donation correct responses**

|   | Responses  |                | Percent of Cases |
|---|------------|----------------|------------------|
|   | N          | Percent        |                  |
| Suitable age for donation (18-60 years)               | 194        | 20.20%         | 77.60%           |
| Suitable weight for donation (45 kg or above)         | 242        | 25.20%         | 96.80%           |
| Blood donation in a year (3-4 times)                  | 156        | 16.30%         | 62.40%           |
| Maximum quantity of blood donated in one time (500ml) | 158        | 16.50%         | 63.20%           |
| Interval between two blood donations (>8weeks)        | 209        | 21.80%         | 83.60%           |
| <b>Total</b>  | <b>959</b> | <b>100.00%</b> | <b>383.60%</b>   |

**Table no: 4 View about blood donation**

| View about blood donation |            | Frequency | Percent |
|---------------------------|------------|-----------|---------|
| Valid                     | good deed  | 100       | 40.0    |
|                           | saves life | 147       | 58.8    |
|                           | no view    | 3         | 1.2     |
|                           | Total      | 250       | 100.0   |

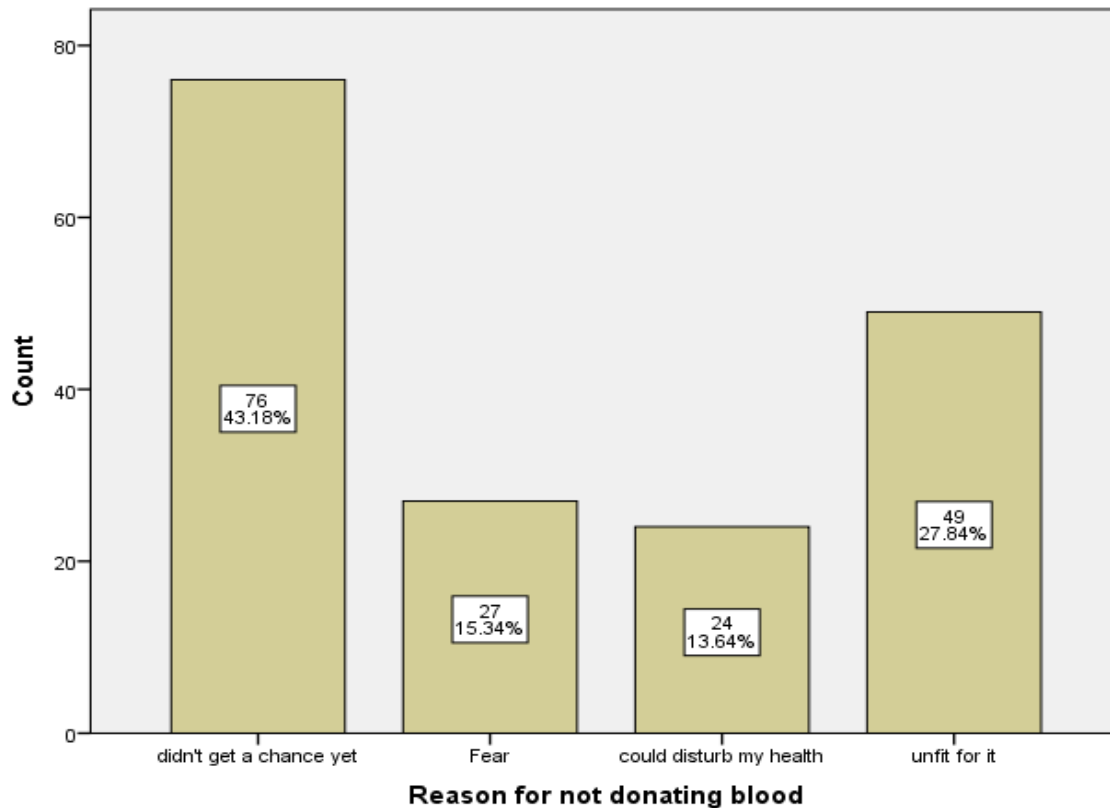
**Table no: 5 views about side effects**

| What could happen after blood donation | Frequency | Percent |
|--|-----------|---------|
| It leads to weakness                   | 97        | 38.8    |
| Donor is at risk of getting sick       | 20        | 8       |
| No adverse effect                      | 133       | 53.2    |
| Total                                  | 250       | 100     |

|              | Are you in favor of blood donation |            | Favor of donating blood in blood donation CAMP |            |
|--------------|------------------------------------|------------|--|------------|
|              | Frequency                          | Percent    | Frequency                                      | Percent    |
| Yes          | 232                                | 92.8       | 179  | 71.6       |
| No           | 18                                 | 7.2        | 71   | 28.4       |
| <b>Total</b> | <b>250</b>                         | <b>100</b> | <b>250</b>                                     | <b>100</b> |

| Blood should be donated to | Frequency  | Percent    |
|----------------------------|------------|------------|
| Relatives/friends          | 17         | 6.8        |
| anyone in need             | 233        | 93.2       |
| <b>Total</b>               | <b>250</b> | <b>100</b> |

| Practices blood transfusion      | Yes       |         | No        |         |
|----------------------------------|-----------|---------|-----------|---------|
|                                  | Frequency | Percent | Frequency | Percent |
| Ever donated blood               | 76        | 30.4    | 174       | 69.6    |
| Motivated others to donate blood | 143       | 57.2    | 107       | 42.8    |
| Willing to donate in future      | 199       | 79.6    | 51        | 20.4    |
| Regular donor (n-75)             | 11        | 4.4     | 64        | 25.6    |
| Any untoward side effect (n-75)  | 13        | 5.2     | 62        | 24.8    |



Graph no: 1

**RESULTS:**

A total of 250 medical students participated comprising 125 males (50%) and 125 females (50%) in our study to assess the Knowledge, Attitude and Practice of voluntary Blood donation among medical students of AIMC, Lahore. Mean age for all the students was 20.96 years (S.D 1.720), ranging from 17 to 30 years. Among them 194( 77.6%) were hostilities and 56 (22.40%) were day scholars(Table no. 1 ).

**Assessment of knowledge:** The majority of students (97.6%) knew their blood groups. Regarding knowledge about blood borne infections 227 students (90.8%) stated that blood should be tested for HIV and 221(88.4%) said that blood should be screened for syphilis before donation. Conditions when one should not donate blood included HIV (96.8%), Hepatitis B (96.8%), Hepatitis C (97.2%), Syphilis (96.4%), Underweight (97.6%) and any blood disorder (97.2%) (Table no. 2). 194(77.6%) of the respondents thought that the suitable age for donation was 18-60 years, 39(15.6%) considered it to be 12-50 years whereas 17(6.8%) had no idea. Majority of the students 242 (96.8%) thought that blood should be donated if the weight is 45 or above but 8 students (3.2%) said that blood can be donated even below 45 kg. According to 156 students (62.4%) blood can be donated 3-4 times a year while 94(37.6%) blood should be donated only 1-2 times. Regarding the quantity of blood to be donated in one time 158 students (63.2%) said that it is 500 ml and 92(36.8%) said it is 350 ml. According to 209 students (83.6%) the interval between the donations is >8 weeks and 41(16.4%) considered it to be <4 weeks (Table no. 3).

**Attitude towards blood donation:** According to 100 respondents (40%) blood donation is a good deed and 147(58.8%) thought that it saves lives while 3(1.2%) had no idea (Table no. 4). 133 of the respondents (53.2%) thought that there are no adverse effects of blood donation whereas others thought that there could be Weakness 97 respondents (38.8%) or Donors at risk of getting sick 20 (8%) (Table no. 5). 232 students (92.8%) were in favor of blood donation and 179(71.6%) were in favor of donating blood in blood donation camps (Table no. 6). According to 233 students (93.2%) blood should be donated to anyone in need but 17(6.8%) said that blood should be donated only to relatives/ friends (Table no. 7).

**Practice of blood donation:** 76 students (30.4%) donated blood in the past among them 11(4.4%) were

regular donors and 13 of them (5.2%) experienced untoward side effects after donation. 143 students (57.2%) had motivated others to donate blood and 199 (79.6%) were willing to donate in future (Table no. 8). Out of 250 respondents, 174 never donated blood the reasons being, didn't get a chance yet 76(43.18%), unfit for it 49(27.84%), fear 27(15.34%) and could disturb my health 24(13.64%) (Graph no. 1).

**DISCUSSION:**

Maintenance of adequate and safe blood supply is an issue to health planners because of increasing demand day by day. Therefore, it is crucial to understand the knowledge, attitude and practice of blood donation. A total of 250 medical students of Allama Iqbal Medical College, Lahore participated in our study and we got different responses.

The respondents of the study had mean age of 20.9 years ranging from 17 to 30 years this mean age is similar to finding of a study held in Nnamdi Azikiwe University, Awka [2]. In the index study 97.6% of students knew their blood group which is much higher in comparison to a study held in Ambo University, Ethiopia in which only 23.3% of respondents knew about it [7] . Regarding blood borne infections , 90.8% of students knew about HIV and 88.4% knew about syphilis to be screened for blood donation while in comparison to a study among students of different colleges of Kathmandu , Nepal 78 out of 177 could list one disease and 1 respondent mentioned HIV and Hepatitis [4] . In our study , 158 students (62.4%) believed that blood can be donated 3-4 times a year whereas 94 (37.6%) believed that it can be donated only 1-2 times which is different from another study held at university of Benin Teaching Hospital, Nigeria where 27% stated that the gap should be 6 months , 35% said that it must be 3 months and 13% said that only a month gap is necessary . Regarding the attitude towards blood donation 100 out of 250 (40%) said that blood donation is a good deed and 147 (58.8%) said it saves lives whereas in study held in Nigeria 81.6 respondents said that blood donation is a good deed [16] .

233 students (93.2%) said that blood can be donated to anyone in need but 17 (6.8%) said that they would donate only to friends and relatives while in a study held among university students in Kilimanjaro, Tanzania 89.3% were

willing to donate blood to anyone in need 94.5% were willing to donate to relatives/ friends [8]. In our study 179 (71.6%) agreed to donate in blood donation Camps which is similar to a study held in Nepal in which more than half of the students thought that blood collected in blood donation Camps is sold by blood bank to those in need of blood so they agreed to it [4].

Regarding the practice of blood donation 76 students (30.4%) donated blood in past among them 11 were regular donors in comparison to a study held amongst undergraduate medical students in Solan, North India in which 43.3% respondents had donated blood in the past and 74% of them wanted to become regular donors [20]. In a study held in Northwest Ethiopia the reasons for not donating blood included being unfit to donate (21.2%), fear of being anemic (12.6%) in comparison to our study in which students gave reasons including didn't get a chance (43.1%), unfit (27.84%), fear (15.34%) and could disturb health (13.64%) [19]. In our study 143 (57.2%) had motivated others to donate blood.

So this problem needs massive public health advocacy about importance and related risks of blood donation to ensure steady supply and availability of safe blood for transfusion.

### CONCLUSION:

The conclusion of my study is:

- Medical students had good knowledge and positive attitude towards blood donation but it did not lead to actual practice.
- The most common reasons for not donating included fear and lack of opportunity so steps must be taken to allay their fears and create some more opportunities for them.
- Although the number of voluntary blood donors was low but they were willing to donate in future and also they had motivated others.

### LIMITATIONS:

1. Our sample size was limited (250 students).
2. The study was conducted on medical students who had more knowledge about blood donation so this study cannot be applied on general population.
3. The study cannot be applied to multi-culture countries due to difference in tradition and socio-demographic factors.

4. Information on ever or repeated blood donation relied on reports by the students themselves and was not confirmed with any medical report.

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