Original Article

Knowledge, Attitude and Practice of Blood Donation among Adult Population in an Urban Field Practice Area of a Tertiary Care Hospital

Vijaykumar Powar[1], Surendra Kulkarni[2], Sanjeev Chincholikar[3]

[1]Assistant Professor, Department of Pathology, MIMER Medical College, Talegaon Dabhade, Pune, [2]Associate Professor, Department of Community Medicine, MIMER Medical College, Talegaon Dabhade, Pune, [3]Professor and HOD Department of Community Medicine, MIMER Medical College, Talegaon Dabhade, Pune.

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Abstract

Background: Human blood is basically a vital and essentially lifesaving component. Blood scarcity is frequently observed in health care settings. Voluntary donation is the proper method for blood collection. Understanding the knowledge, attitudes of potential donors are important to improve blood donation practices.

Aims and Objectives: To study the knowledge, attitude and practice towards blood donation among adult population.

Materials and Methods: A cross sectional observational study was carried out among adult population in the urban field practice area of a tertiary care hospital. Adult participants were selected from registered families. A semi structured questionnaire was used for data collection.

Results: 220 adults participated in the study. Average age of the participants was 39.79 years with SD 12.50. A majority of the participants were workers by occupation. 72.77 % of the participants were aware about their own blood group. Knowledge was found significantly associated with education status of the respondents. Almost all the participants had a positive attitude towards blood donation. However, only 20% of the participants had donated blood any time before. Fear of weakness, fear of blood, needles were the main reasons for not donating the blood**.**

Conclusion: Present study shows a good knowledge about own blood group but poor knowledge about other technical aspects of blood donation.

Key Words: Attitude, Blood, Blood Donation, Knowledge, Occupation.

Introduction

Human blood is basically a vital and essentially lifesaving component. It is capable of saving millions of lives if ready availability can be ensured[1]. Blood transfusion is a crucial part of any healthcare system and it is a lifesaving measure in several

Corresponding Author: Surendra Kulkarni, Associate Professor, Department of Community Medicine, MIMER Medical College, Talegaon Dabhade, Pune.

E-mail: dr.sjkulkarni@gmail.com

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critical conditions such as malignancies and bleeding disorders[2]. Availability of safe blood is highly essential for proper medical care and it is important for preventing the spread of infectious diseases at a global level[3]. Evidence-based strategies for blood safety and availability have been successfully implemented by most developed nations. In contrast, despite tangible progress, many developing and transitional countries are unable to always meet their national requirements for blood and blood products.[4]

Blood scarcity is frequently observed in health care settings. An imbalance between increasing demand for safe blood and blood products on the one hand and failure to organize regular blood supply on the other hand appear to be important reasons. To name a few misconceptions, perceived harms and risks of blood donations and lack of motivation among potential donors are the reasons for the same[1].The average number of blood donations per thousand population is 10 times higher in high-income countries than in low-income countries. It is generally recommended that the equivalent of 1-3% of the population should donate blood to meet needs of a country.[4]

Voluntary non-remunerated donation is the proper method for blood donations.[3] Thus regular donations by voluntary unpaid blood donors are essential for adequate supply of safe blood. Understanding the motivations, knowledge and attitudes of potential donors are crucial to improve the effectiveness of donor recruitment and retention programmes[5]. Assessment of knowledge, attitude and practice towards blood donation among people will definitely aid in preparing effective health education strategy to enhance blood donation practices among potential donor and will reduce the incidences of scarcity of blood in the hospitals.

The present study is an attempt to assess the knowledge, attitudes and practice towards blood donation in an urban community.

Aims and Objectives:

1. To assess the knowledge of blood donation among adult population
2. To study the attitude towards blood donation.
3. To find out the practices of blood donation.
4. To identify sociodemographic factors associated with blood donation.

Material and Methods

A cross sectional observational study was carried out in the urban field practice area of a tertiary care hospital after getting approval of Institutional Ethical Committee. The approval letter from Institutional Ethical Committee has reference number and date as follows: MIMER/ IEC/ 643/2019 dated 11/11/2019. The study population consisted of adults from families registered in Urban Health Centre. Individuals in the age group 18 to 65 years were included in the study as per the guidelines mentioned in Standards for Blood Bank and Blood Transfusion Services, Government of India[6].

Sample size:

It was reported in one of the previous studies that 45% of the participants had good knowledge about blood donation[5]. With 95% confidence interval (alpha=0.05) and allowable error of 15%, the calculated sample size was 209. Considering non responsive error of 5%, the final sample size was rounded up to 220.

Sampling type:

The families were selected randomly from the register in Urban Health Centre. Adult participants were selected from registered families[6]. One adult person was selected from each family randomly

Study Tool:

A semi structured questionnaire was used as study tool. The questionnaire was in two parts. First part had questions about sociodemographic information while second part consisted of questions related to knowledge, attitude and practices regarding blood donation.

Data Collection:

The approval of Institutional Ethical Committee was obtained before starting the study. Data was collected by personal interview method. Prior written consent was obtained from the individuals who were willing to participate in the study. The nature and purpose of the study was explained to the participants and an informed consent was taken. The data was entered in MS excel sheet and analysed using appropriate statistical tests.

Results

The responses were collected from all participants. Proportion of males and females was almost equal. Average age of the participants was 40 years.

Table 1: Demographic Profile of the participants As mentioned in materials and methods the age group of 18 to 65 years was divided as follows.

Particulars	Total Number (N=220)	Percentage (rounded up)
Age Group (Years) :		
18 – 25	30	14%
26 to 35	62	28%
36 to 45	63	29%
45 and above	65	29%
Education Status:		
Below Graduate	153	69.55%
Graduate and above	67	30.45%
Occupation:		
Clerical	10	4%
Worker	175	80%
Professional	18	8%
Unemployed	17	8%

From Table1 it is evident that most of the respondents were above the age of 25 years. All the participants were educated though majority were below graduate. Most of the participants were workers in nearby industries while very few were unemployed.

Table 2: Knowledge of the participants about blood donation and their educational status:

Knowledge about blood donation	Number of participants Below Graduate (Percentage)	Number of participants Graduate and above (Percentage)
	Yes	Yes
Universal donor	64 (42%)	53(79%)
Universal recipient	13(9%)	23(34%)
Blood tests for diseases	59(39%)	52(78%)

It was observed that majority of the participants (72%) were aware of their own blood group while almost half of the participants knew about the types of blood groups.

It can be observed from the Table 2 that majority of the participants had the exact knowledge about universal donor irrespective of educational status. However, knowledge was more in participants having education status graduates and above. The difference between knowledge and education status was found highly statistically significant($p < 0.05$).

Surprisingly very few participants had exact knowledge about universal recipient and there was an increasing trend as the education status increased. The difference was also found statistically significant ($p < 0.05$).

Less than half of the participants were having the knowledge about the blood tests carried out before transfusion. However, knowledge was more in participants having education status graduates and above. There was statistically significant difference between educational status and knowledge about blood tests for diseases ($p < 0.05$).

Table 3: Attitude of the participants towards blood donation:

Sr No	Attitude towards blood donation:	Positive response	Percentage
1	blood donation saves the life.	220	100%
2	Whether a person should donate the blood?	220	100%
3	blood donation causes disease to the donor.	13	5.91%
4	Remuneration after blood donation.	30	13.64%

It is observed from the Table 3 that all the participants were of the view that blood donation can save the life and a person should donate the blood. Very few participants were of the opinion that blood donation can cause disease.

Association of attitude of the participants towards blood donation was tested against education level of the participants, but it was not found statistically significant.

Table 4: Blood donation practices among participants:

Sr No	Blood donation practices	Positive Response	Percentage
1	If the person has donated blood any time before?	44	20.0%
2	Discomfort after blood donation	4	1.82%
3	If ready to do blood donation in future	211	95.91%
4	If motivated other people to donate the blood.	25	11.36%
5	Organisation of blood donation camp any time before	6	2.73%

It is evident from Table 4 that only one fifth of the participants have donated blood at any time before. Very few of them have noticed some discomfort. Few participants have motivated other people for blood donation and while hardly few have organised camp.

Table 5: Association between practice of blood donation and occupation of participants:

Occupation	Donated blood any time before	
	Yes	No
Clerical	3 (30.0%)	7(70.0%)
Workers	28(16.0%)	147(84.0%)
Professional	9(50.0%)	9(50.0%)
Unemployed	4(23.53%)	13(76.47%)
Total	44(20.0%)	176(80.0%)

It is observed from Table 5 that majority of unemployed persons and workers have not donated blood earlier. Half of the professionals have donated blood earlier. There was a strong association between occupation and practice of blood donation. ($\chi 2$= 12.63, p <0.05)

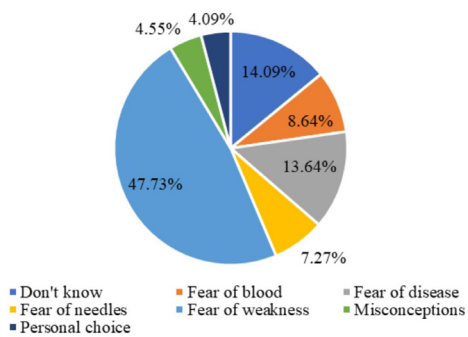

Figure 1: Pie Diagram showing reasons for not donating blood.

From the above pie diagram, it is evident that half of the participants had not donated blood in view of fear of weakness. Other reasons for not donating blood were fear of disease, fear of needles, fear of blood and misconceptions.

Discussion

The present study was a cross sectional study conducted in the urban field practice area of a tertiary care hospital to assess the knowledge, attitude and practice of adults about blood donation. The data was collected from 220 participants.

As mentioned in Table 2, it was observed that majority of the participants were aware of their own blood group. Similar observation was found in a study conducted by Dr Anand et al [5]. In another study conducted by Nazuk Razdan, the percentage was little higher (86%)[7]. The difference may be due to differences in socioeconomic status of study population. However, in a study carried out among medical students by Renu Chauhan et al [1] fairly large number of was found high (95.7%) These differences in responses may be because of higher professional knowledge of medical students and Health Care Workers.

Awareness about age limit of blood donation was found in very few participants (13%). Awareness was lower than the results of study conducted by Dr Anand et al (26.3%) [5]and Nazuk Razdan (37.1%)[7]. Differences in socio-economic status and in educational status of the participants may be the reason.

Knowledge about Universal donor was on higher side (53.18%) while that for universal recipient was quiet less (16.36%). Dr Anand et al[5] reported that the knowledge about universal donor was quite low (29%) however knowledge regarding blood donation by diabetic persons was found at higher level 78.6%.

In our study, knowledge about universal recipient was found 16% while it was 98% in the study conducted by Renu Chauhan et al [1] and 78.20% in a study conducted by Mishra et al [8]. The difference may be attributed to occupation and education status of participants. In both studies participants were medical students.

The present study reported that knowledge regarding blood donation was found significantly higher in graduate and above education groups. Similar findings were reported in the study conducted by Dr Anand et al [5] and Amit Agarwal etal [9].

It was observed from the study that almost all the respondents were of the view that blood donation can save the life of a patient. More than 90% of respondents in the study conducted by Dr Anand et al [5] were of this opinion. Very few respondents in present study thought blood donation may cause disease while in a similar study conducted by Dr Anand et al [5] 23.6% respondents thought blood donation may have harmful effects. Most of the respondents in the study conducted by Nazuk Razdan[7] have shown positive attitude towards blood donation. Very few participants in our study were of opinion that there should be remuneration for blood donation. Similar findings were observed from study conducted by Dr Anand et al[5].

Though, almost all the respondents displayed good attitude towards blood donation in our study, only 20% of the participants have donated blood any time before. It was found that there was strong association between occupational status and practice of blood donation.

These findings are in consistent with findings reported in a similar study conducted by Dewit et al(21.6%)[10]. In a similar study conducted by Verma S. et al [11]it was reported that only 12.1% of respondents had donated blood before.

In our study, participants of professional and clerical occupation have high percentage of blood donation practices.(almost 80%) and percentage of blood donation was found 16% among workers however it was quite high (73%) in a similar study conducted by Dr Anand et al [5]. This may be attributed to difference in socioeconomic status of the participants.

It was evident from Figure 1 that the most common reason for not donating blood was fear of weakness. (47.73%) Dr Anand et al [5] also reported fear of health problem as cause for not donating the blood (38.5%). While in a similar study by Dewit et al [10]68.3% participants reported that something harmful can happen to a blood donor during or after blood donation.

In a study conducted by Sonika Kumari et al [12]among hospital visitors, the most common reason for not donating blood was nobody approached them to realize the need of blood donation.

Conclusion

From the above study it can be concluded that majority of the participants were aware of their own blood group. It was also observed that the fairly large number participants knew about the types of blood groups whilemore than fifty percent of the participants were aware about universal donor. Surprisingly very few were aware about universal recipient. All the participants were of the view that blood donation can save the life and a person should donate the blood. Very few participants were of the opinion that blood donation can cause disease. Thus, most of the participants had a positive attitude towards blood donation. Attitude towards voluntary blood donation was also good. Fear of weakness was one of the most frequently reported reason for not donating the blood. Association between education status of participants and attitude towards blood donation was not found statistically significant. It was observed that only 20% of the participants have donated blood any time before, though they were aware of the fact that blood donation can save the life and a person should donate the blood.

Recommendations:

Based on study results following recommendation may become useful regarding the practice of blood donation. Regular awareness campaigns may be arranged at community level to increase the practice

of voluntary blood donation. Use of mass media on a larger scale can be a important strategy to increase the awareness towards blood donation as it is a fact that blood donation can save life which is precious.

Limitations of the study: Similar studies may be carried out in rural areas to get a wider view of this subject.

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