

BLOOD DONATION AND PLASMA TRANSMISSION

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ABSTRACT

In this we will talk about humanity. It is the largest virtual gathering to arrangement of physical human needs. There are a lot of organizations all around the globe who are doing a lot to help poor people. They are trying their best to provide each and every human soul of this planet with food and water. But there also comes the most unpredictable thing that is sickness. No matter if you are rich or poor, sickness is the one thing that can affect anyone's and everyone's health. And there is no stopping it because you cannot predict when or where sickness is going to get you. But one difference between sick people is their financials. The ones with a stable finance have a fighting chance against the sickness but for the poor, there is no escaping it. So, we are going to create a platform which will help the ordinary people in need of blood or plasma. Here, after sign in to our account we organize camps to donate blood and plasma as per demand. We check the nearby hospitals who are in dire need of blood or plasma and donate all the blood and plasma we gathered from the donation camps.

Keywords—blood, plasma, donation, social work, web development, Java

I. INTRODUCTION

The whole world was on the path of going fully digital where no matter the work is small or massive, you can go to some website or application to get it done online. And then came the coronavirus pandemic, which took the world by surprise and made the world still. No crowds in the market, no vehicles on the roads, no ships in the sea. But as till world cannot survive. So people found a way around that by going digital. It revolutionized the digital era. Almost everyone started doing their work online. For every possible work, there was a website or an application. But in that pandemic we also saw a lot of people die due to coronavirus or covid 19.

There was no vaccine available in the market, so the only way to fight the virus was blood or plasma transfusion. So we decided to create a website for blood donation and plasma transmission. The plan was to identify the areas where in the local hospitals there was deficiency of blood or plasma. And in those areas to organize blood donation camps but of course with proper precautions. So we created a website where people can register online for blood and plasma donation. They will get the dates and timings of the camps. They can come and donate blood and plasma on these specific dates between the mentioned hours. Then we will contact the local hospitals and give them the blood and plasma we collected through these camps and help some people.

II. LITERATURE REVIEW

A Literature review is a text written by someone to look at critical points of current knowledge including more powerful findings such as theoretical and methodological ideas on a particular topic. The main objectives are to place this research within the body of the textbook and to provide context for the reader himself.

The first records of a voluntary blood donation program in India can be traced back to 1942, during World War II when the first blood bank was established in Kolkata, West Bengal. [1] A blood bank was established at that time to meet the blood requirements of those wounded on the battlefield. Government officials and British industrialists volunteered to donate blood for the project. When the war was over, enthusiasm diminished, and the collection of blood banks was largely based on professional or paid blood donors. Ten years passed until Mrs. Leela Moolgaokar started with voluntary blood donation machines in Bombay (now Mumbai) from 1954 onwards. She is motivated by the need for her injured son's blood. The 1960s marked the expansion efforts - Kolkata (Jadhavpur University), Ahmedabad and Delhi (Red Cross Societies) and Chandigarh (Blood Bank, PGI and a group of voluntary social workers, the Blood Bank Society). In 1971, Professor J.G. Jolly who co-founded the President of the Indian Society of Blood Transfusion and Immunohaematology took the organization to higher ground and the Society under its leadership declared October 1 as National Voluntary Blood Donation Day which was later adopted by the government. Since then, many blood donors have come from various parts of the country to support the noble cause of the voluntary blood donation.

Two major causes of blood safety in India that have revived blood transfusion services (BTS) and put them in voluntary blood donations are:

1. The HIV pandemic and
2. Public Interest Litigation (PIL) - A Common Reason compared to the Union of India (1992).

In response to the epidemic, blood safety became an integral part of the National AIDS Control program and the key objectives of BTS are:

1. Revitalization of blood banks.
2. Encouraging voluntary blood donations.
3. Staff development and
4. Quality programs in BTS.

The outcome of the PIL was a landmark decision [2] directing the Central government to:

1. Establish national and local blood transfusion councils.
2. Compulsory licensing of all blood banks as well
3. Prohibition of trained blood suppliers since January 1998.

The National Blood Policy (2002) and the Blood Safety Action Plan (2003) were adopted by the Government of India. Goal 4 of the Action Plan states that "Introduce comprehensive donor awareness programs, education, promotion, recruitment and retention to ensure safe blood supply".

The National Blood Transfusion Council (NBTC) was formed within the National AIDS Control Organization (NACO) and similarly the State Transfusion Council (SBTCs) was established within the National AIDS Control Agency (SACS). Each SBTC was directed to conduct communication needs assessments and to develop an IEC (Information, Education and Communication) strategy within its mandate. The NBTC was entrusted with organizing a national campaign. A national IEC campaign was launched with the aim of encouraging donors, recruitment, selection and retention. Electronic and print media has been widely used; television shows, advertisements, radio talks, newspapers, posters, pamphlets, wrapping, stickers, in addition to donor greeting cards, calendars, New Year's diaries and small tokens featuring voluntary blood donation messages were widely distributed. Encouraging talks were given in high schools and colleges. Voluntary blood donors are honored on National Voluntary Blood Donor Day (October 1) and World Blood Donor Day (June 14) by Central / State governments and blood banks / transfusion departments within hospitals and medical centers. Blood mobiles - State of Art - Vans with fully equipped equipment provided by NACO in various provinces to facilitate blood donation

III. METHODS

1. Study Settings

The blood donation camp was organised in Ferozpur village in Palwal district of Haryana. The district has PHC, which was run by the Center for Community Medicine, All India Institute of Medical Sciences (AIIMS), in New Delhi. The total number of people served by this PHC was about 47,000 distributed in 11 districts. District-level health workers spread the news about the blood and plasma donation camp through online registration via our website and gathered important information for the event. The current camp was organized in partnership with PHC Chhainsa and AIIMS blood bank, in New Delhi. The blood donation campaign is primarily done to collect the maximum amount of blood and plasma, regularly sponsored by CCM. The blood bank, AIIMS, has the authority to support these blood donation programs and to demand regular blood transfusions. Blood collected during the camp was transferred to AIIMS Blood Bank in New Delhi. AIIMS blood bank mainly organizes an urban blood donation camp in Delhi. The rural camp was a function of empowering rural communities by donating blood and using it.

2. Preparatory Activities

A meeting was arranged, at which city-level participants including community-level health workers, a rural youth organization representatives, and the local chief participated. Decisions regarding the date, location, and procedure for the use of the blood donation camp were finalized as part of this meeting. Tracts, posters, banners and word-of-mouth transmission were used to raise awareness of the event. One week before the scheduled date of the blood donation camp, the government announced the Intensive Pulse Polio Immunization (IPPI) round. Health workers were required to visit door to door on the day of the IPPI mop up. While conducting door-to-door visits on the day of the job promotion, health workers also told them about the website.

3. Roles and Responsibility of Stakeholder

The various participants and their roles are shown in Figure 1. A community-level youth organization, acting as equal partners, organized a camp (community guest house within the village) to hold the camp. The local chief added support for the event. All health workers, working from the grass roots of the community - authorized public health activists, local political leaders, and the local youth organization play a role in mobilizing willing donors. PHC staff prepares posters and posters in the local language (Hindi). The tracts contain information about appropriate blood donation procedures such as age, weight, and high blood pressure. Alcohol use is a common occurrence in the study environment, non-drinking of alcohol 48 hours before the donation was also emphasized to potential service providers. Local media outlets such as a local newspaper vendor, a journalist, and television crews were arrested for disseminating information about organized blood donation camps, eligibility methods, and what should not be done about donating blood. Dissemination of awareness, gatherings, and health discussions were held involving school children, teachers, and doctors in all PHC districts. Short films about blood donation are also shown on PHC premises. A short-lived discussion schedule was developed and distributed to those who came to donate blood.

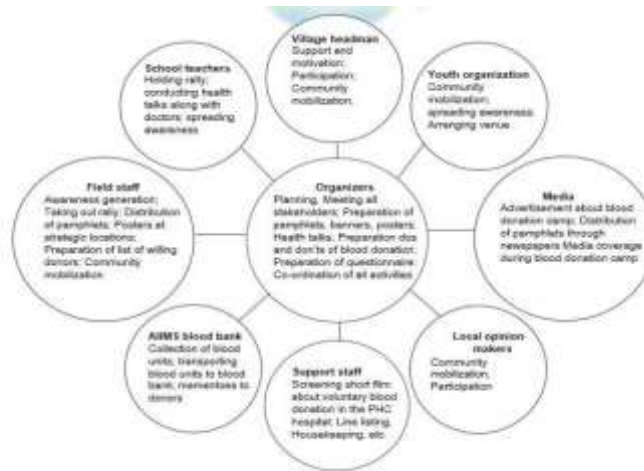
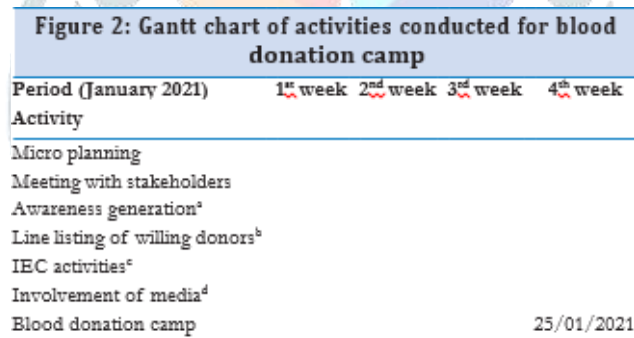


Figure 1: Roles and responsibilities of various stakeholders

A blood donation camp was held on January 25, 2021. An AIIMS blood donation van was used for the event. Employees from AIIMS blood bank are sent to collect blood units. The standard test protocol was followed before the donation. Hemoglobin level was measured in Hemocue. A slightly planned interview schedule was provided to those reporting to the blood donation camp. As a token of gratitude, mementoes were donated to blood donors. The Gantt chart of activities for the blood donation camp is shown in Figure 2.



4. COMPLIANCE WITH ETHICAL STANDARDS

Informed written consent was obtained from all willing donors who had visited the blood donation camp.

5. RESULTS

A list of 152 volunteers was prepared as part of the planning process, with 88 of them coming from a blood donationcamp.Afterathoroughexamination,67were found to be ready for blood transfusions. Participant mobility is given in Figure 3. The mean age difference (SD) for willing sponsors who attended the camp was 31.9 years (SD 9.4). Dedicated sponsors were male (89.8%). Sociodemographic characteristics are present in table1. Weight(SD),length, and hemoglobin of willing donors were 73.8 kg (13.1),169.2 cm (6.9), and 14.5 g% (1.6),respectively. The majority of willing donors received information about the blood donation camp from the advertisement(35.2%)

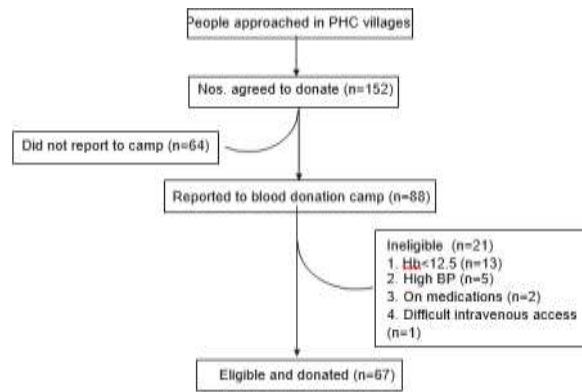


Figure 3: Flow of participants in the blood donation camp

and health workers (19.3%) [Table 1]. Distribution of voluntary donors according to their blood donation information is shown in Table 2. Of those who volunteered, 49 (55.7%) had previously donated blood, mainly voluntary donations.

When donors were asked what motivated them to donate blood, the answers were for personal benefit (n =63), "I love it" (n = 12), "for your own benefit" (n = 12), and one of the answers was "inspired by a friend." Most (62.5%) knew about their blood type. As shown in Table 2, there was low awareness about the opposition to blood donations in this group of willing donors.

6. DISCUSSION

We have described here our experience in organizing a blood donation camp in a rural area together. Synergies are found in the community youth organization, local chief, influential community members, school teachers, students, health workers and AIIMS blood bank. We found that the majority of donors (63.6%) were in the 25-44 age group, with similar findings in the highest paid countries where donors aged 25 to 44 were 40%. A WHO study reported that in low-income countries, including India, the majority of donors (53%) were in the 18-24 age group. [8] A study in India also reported that the majority of sponsors were in the <25agegroup.[9] The high number of young donors in other studies may be due to the location of blood donations which often refer to urban educational institutions.

Low levels of awareness among the elderly may be another reason for their low representation as seen in many Indian studies. In a study in Uttarakhand, India, about 45% said that they did not donate blood because of lack of knowledge.

[10] This opens up opportunities for increased voluntary giving if we focus on this group of people who are willing but not aware. Our findings show that appreciatively, donating blood to people aged 25-44 can be increased. This age group remains unused even in urban areas.

Table 1: Sociodemographic characteristics of persons who reported to the blood donation camp (n=88)

Variables	Number	Percentage
Age (years)		
18-24	21	23.9
25-44	56	63.6
45-64	11	12.5
Sex		
Male	79	89.8
Female	9	10.2
Education (class)		
0-8	11	12.6
9-10	28	31.8
11-12	24	27.3
>12	25	28.4
Occupation		
Agriculture	28	31.8
Self-employed	22	25.1
Private job	13	14.8
College student	9	10.2
Others	16	18.1
Main source of information		
Advertisement	31	35.2
Health workers	27	30.6
Youth organization	17	19.3
Others	13	14.8

Table 2: Distribution of persons who reported to the blood donation camp according to their knowledge about blood donation (n=88)

Variables	Frequency	Percentage
Knowledge about blood group		
Yes	55	62.5
No	33	37.5
Can donate after smoking		
Yes	23	26.2
No	65	73.8
Can donate after drinking alcohol		
Yes	21	23.9
No	67	76.1
Contraindications for donation*		
Tuberculosis	30	34.1
HIV/AIDS	18	20.5
Jaundice	13	14.8
Cancer	13	14.8
Others	15	17.0
Don't know	22	25.0

Most contributors were male, and the male-to-female ratio was 9: 1, similar to another study. A study in Greece reported a 2: 1 ratio of voluntary blood donations. The cultural background, social myths, and misconceptions may have a low number of women who are committed to donating blood. Continuing blood donation to women is always a challenging task and needs to be encouraged. In our study, the most common job of donors was farming (31.8%) followed by self-employment (25.1%). A study in India reported that students and self-employed people were the main contributors. The number of students among the sponsors in our study was low (10.2%). The timing of the blood donation camp may not have been appropriate for the students. A different strategy may be needed to ensure better student participation. In a study in Hong Kong, it was noted that organized and regular camps were needed to increase awareness and educate young people.

We found that 21 (23.8%) willing donors were not eligible to donate. The other two studies showed similar levels of retrospective. The most common causes of malnutrition were low hemoglobin levels (14.7%) followed by high blood pressure (5.6%). In a study conducted at a tertiary hospital, the main reasons for the transfer were drug use in the past 72 h (15.15%), high blood pressure (13.18%), low hemoglobin (12.34%), and alcohol consumption in the past 72 hours (12.20%). [9] Numerous

studies around the world have identified high blood pressure and anemia as well as other factors that contribute to deliberate blood loss. We hypothesize that the diagnosis of anemia in rural Haryana (52.6% of people 20 years of age and older had anemia), anemia tests can be performed as soon as a blood donation is detected. Those diagnosed with anemia can be referred to a health facility for treatment. The blood donation rate in India was 8/1000 which was significantly lower than the rates seen in most developed countries such as Switzerland and Japan. The WHO recommends a collection of 10-20 / 1000 / blood units per year. Therefore, we should aim to assemble 470- 940 units annually in our area, considering that PHC has helped 47,000 people. Arranging for blood donation camps in different districts can be tried in the same way. Over time, it is reasonable to assume that the level of awareness will improve and thus, help to achieve the goal.

Among the willing donors (n = 151), about half (n = 88) emerged blood donations. Similar results have been reported by others. Finding reasons to drop out of school and dealing with these issues can help increase blood donations. From the list of volunteers, one can choose to invite those who have not yet come to donate blood to participate in a recurring blood donation camp. However, efforts should continue to recruit new donors and encourage former donors to donate blood again. We are considering creating a voluntary donor register, which will be a future source of community support.

The authors were inspired by the response of the rural population and planned to hold repeated blood donation camps not only in this city but also in other districts used by PHC. The aim is to create a pool of recurring donors and to continue to try to find people who donate blood. Although our knowledge was limited to one event, we believe that such blood donation camps in rural areas could be successfully organized in other rural areas as well.

IV. CONCLUSION

The main purpose of this work is to provide blood and plasma to the people in need. The primary reason for us was to provide blood and plasma to corona affected people but with time we realized that it will not just help them, it will help everyone in need of blood and plasma.

V. ACKNOWLEDGMENT

The authors would really like to acknowledge all doctors, staff, community members, and donors for his or her contribution.

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