

Blood Donation

PRESENTED BY:
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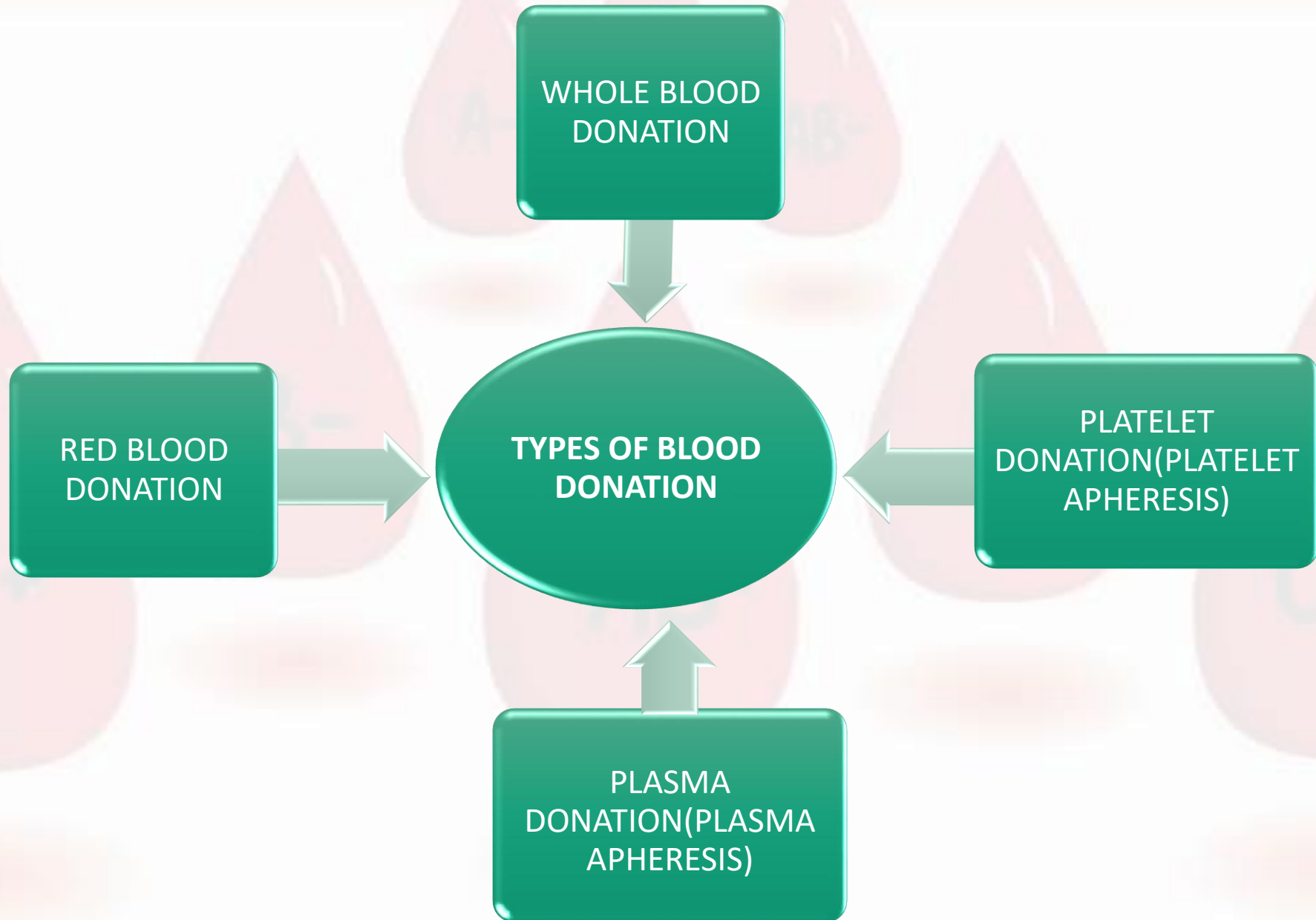
GAP-ANALYSIS FOR COMPLIANCE OF BLOOD DONATION PROCESS TO THE NABH STANDARDS IN BLOOD BANK IN TERTIARY CARE HOSPITAL

➤ INTRODUCTION:

According to Central Drugs Standard Control Organization(CDSCO), there were 2,760 blood banks in the country in 2015(2,626 functional blood banks across the country excluding 46military blood banks). During January to December2015, the annual blood collection from all the blood banks that reported was 11,645,791 of which 71.9% units were through voluntary donation and remaining were from replacement donation. Blood transfusion is a multi-step process with the risk of error in each step process from selecting donors, collecting and processing donation, testing of donors and patient samples, issue of compatible blood, to transfusing the patient. An effectively planned and implemented quality system that includes internal quality assessment, external quality assessment, and education and training of staff can significantly reduces the risk associated with blood transfusion. Most blood collected for medical use is transfused into patients who need blood because of trauma, for surgery or as therapeutic treatment of diseases. Blood components are stored at different temperature like RBCs at 2-6 degree Celsius(42days shelf life, paediatric red cells 35days), platelet at 20-24degree Celsius (5days shelf life), fresh frozen plasma at or below -25degree Celsius.(shelf life 12months).

Purpose of the study: NABH accreditation just doesn't add to the quality of hospital services but also aid in gaining trust, reassuring safe practices and delivery of standardised services to the patients. NABH core indicators helps in the enhancement of quality and safety in blood transfusion service, decreased wastage of blood and blood components, decreases average turnaround time of donors and for issue of blood and blood components, and lesser number of blood transfusion reaction.

An observational study conducted with the aim of reviewing planning and functioning of blood donation process to obtain non compliance against NABH standards , to address loop holes in pre-donation, during donation and post donation process and also the room turnaround time is recorded, which is the time between donor enter the blood donation room and leaves after post donation counselling. Some NABH indicators like percentage of adverse donor reaction, percentage of donor deferral, percentage of voluntary blood donation is calculated using the given formula.



➤ **OBJECTIVE:**

1. To understand the functioning of blood donation process and observe the issue in the functioning by their root cause analysis, corrective and preventive action on routine basis.
2. To compare the compliance of blood donation process standards with those laid down for blood banks by NABH.
3. To suggest improvement needs to be done in terms of fulfilling the requirement of accreditation.
4. To analyse the blood donors satisfaction with the current donation process.

➤ **OBSERVATIONS:**

Process of blood donation functioning:

- Blood donor room is situated in OPD building, 3rd floor, which functioned from 9am to 5pm except for Sundays and holidays.

Five Simple Steps To Donate

1



Registration

2



Screening

3



Hydration

4



Donation

5



Post-Donation

Process of blood donation functioning:

- When donors arrive at the blood donation room, he will be asked to complete a online donor registration form, which includes donor name, address, phone number, and various other type of demographic information.

➤ PRE-DONATION SCREENING:

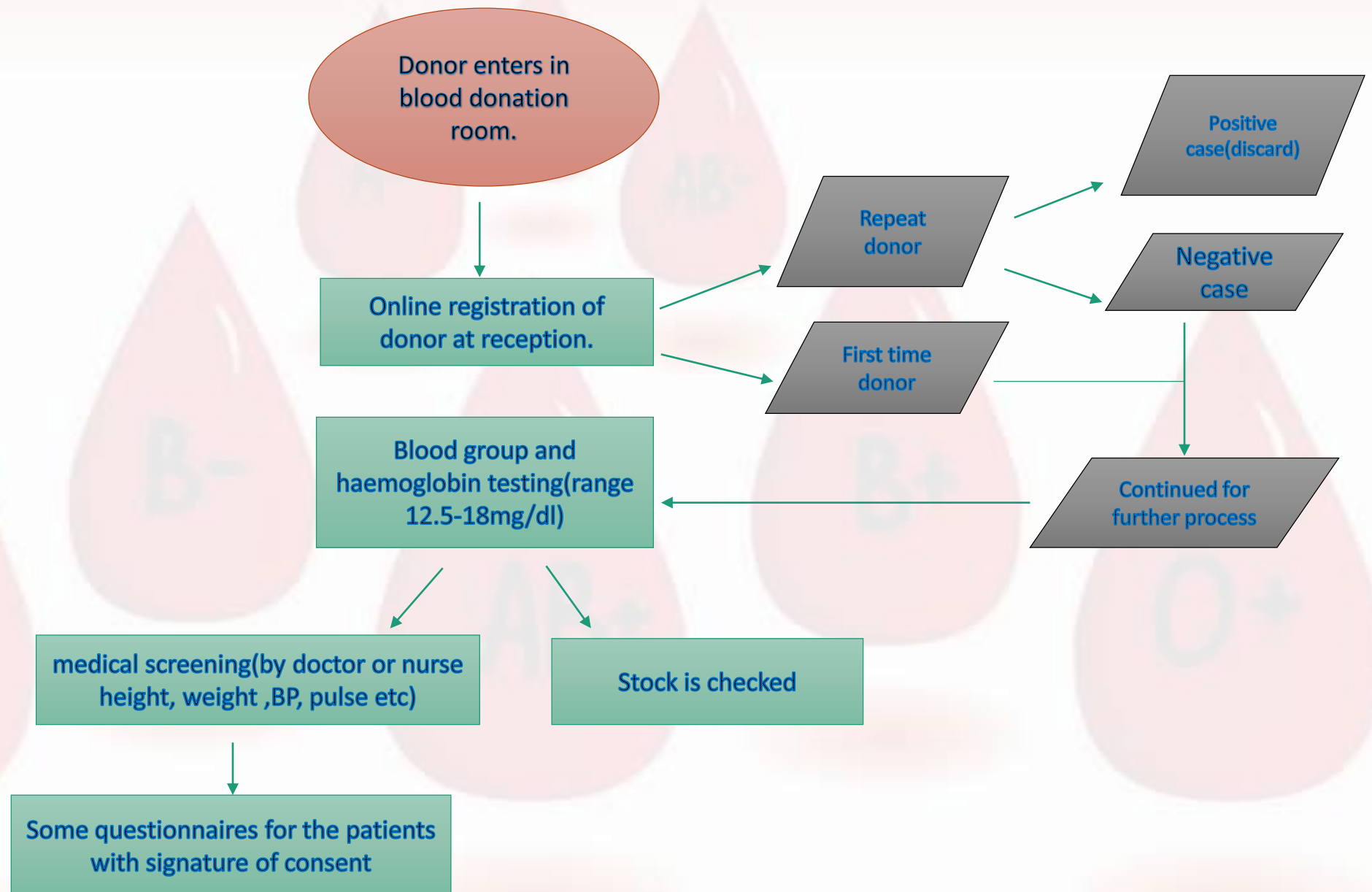
- During pre-donation screening, a blood bank staff at registration counter will ask some questions about health, lifestyle, and disease risk factors. All of this information should be confidential.
- Next, the blood bank technician will check haemoglobin level and blood group of the donor.
- After, this screening donor is sent to MBBS doctor who will check all the vitals like blood pressure, weight, pulse, temperature, and some counselling is also done in case of any health issues.
- Next, the donor will go to the nursing staff who will generate a bar code(identification number) for the patient.

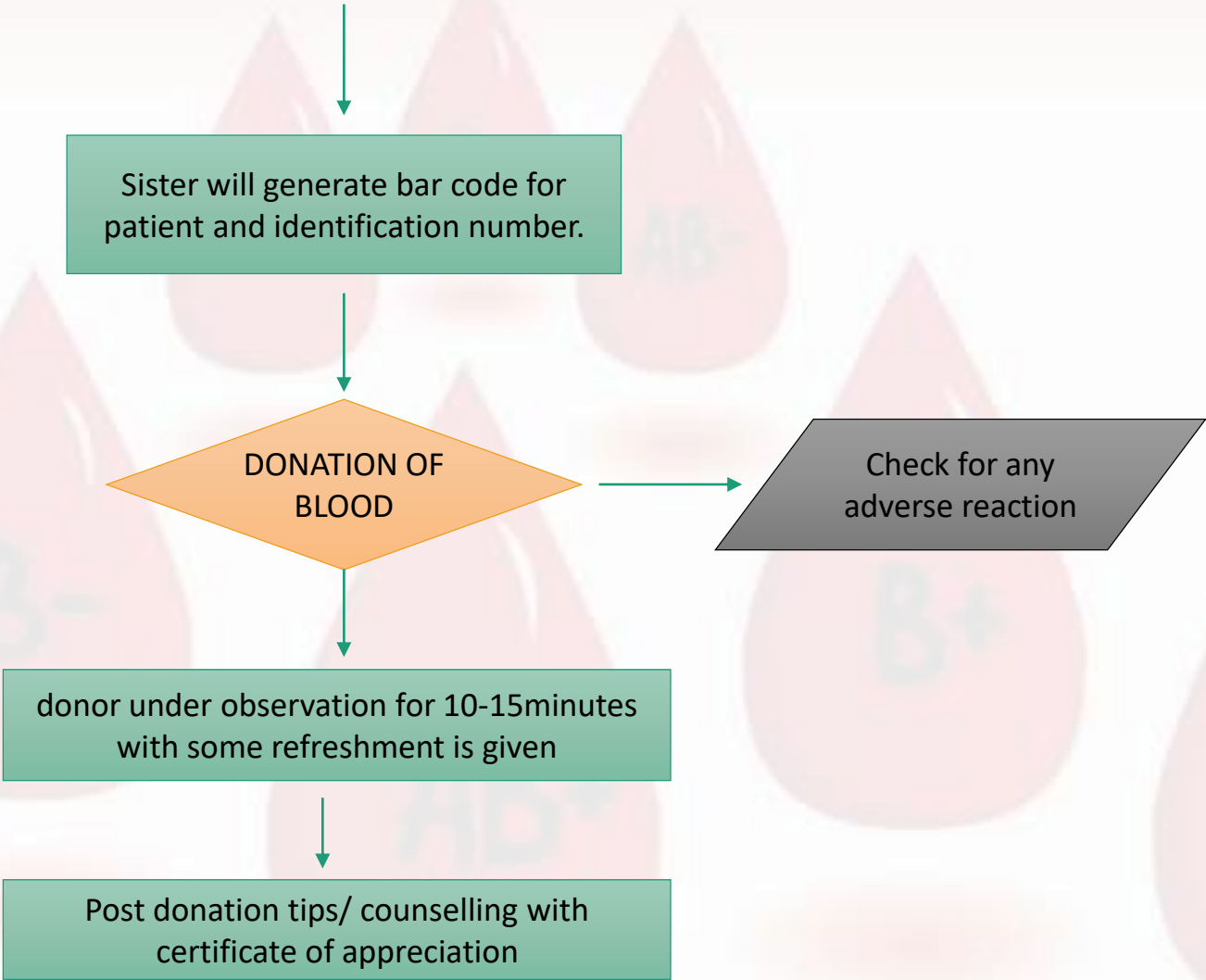
➤ BLOOD-DONATION:

- Once the pre-donation screening is finished, donor will proceed to a donor chair where his arm will be cleaned with an antiseptic, and a professionals will use a blood donation kit to draw blood from a vein in his arm.
- Total 450ml of blood is donated by the donors, it will take around ten to 15 minutes.

➤ POST-DONATION:

- Following the donation, donor will receive refreshments, where donor can stay until he feel strong enough to leave.
- After that, donor will be given certificate as a token of appreciation and also some post donation tips.
- If donor have any questions concerning his donation or experience any unexpected problems, he can call to hospital.





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graph TD; A[Sister will generate bar code for patient and identification number.] --> B{DONATION OF BLOOD}; B --> C[/Check for any adverse reaction/]; B --> D[donor under observation for 10-15minutes with some refreshment is given]; D --> E[Post donation tips/ counselling with certificate of appreciation];
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Sister will generate bar code for patient and identification number.

DONATION OF BLOOD

Check for any adverse reaction

donor under observation for 10-15minutes with some refreshment is given

Post donation tips/ counselling with certificate of appreciation

➤ METHODOLOGY:

- SAMPLE SELECTION: Primary data collected. All scheduled donation in the month of February, April, May 2019 were included in the study.
- LOCATION: From PD Hinduja National Hospital and Medical Research Centre.
- STUDY DESIGN: Descriptive Cross sectional Study.
- SAMPLE TECHNIQUE: Non probability convenience sampling.
- DATA ANALYSIS PROCEDURE: Data was analysed using Microsoft Excel and graphical representation including Bar Graphs, Pie Chart, of the results done as per the need of the study.
- Three NABH indicators observed during the entire duration of the study:

1) Percentage of adverse donor reaction:
$$\frac{\text{Number of donors experiencing adverse reaction}}{\text{Total number of donation}} \times 100$$

2) Percentage of donor deferral:
$$\frac{\text{Number of donor deferrals}}{\text{Total number of donation} + \text{total number of deferrals}} \times 100$$

3) Percentage of voluntary donation:
$$\frac{\text{Total number of voluntary donations}}{\text{Total number of blood donation(voluntary + replacement donation)}} \times 100$$

SAMPLING CRITERIA:

Inclusion Criteria

- In this study, the following blood donors were included, who are
- Present during the period of data collection.

Exclusion criteria

- The study excludes blood donors, who are
- Not willing to participate in the study.
- Blood donation on Sundays, donation camps and other holidays.

The plan for data analysis was as follows;

- frequencies and percentages to be used for analysis genders, trend of donation, deferral cases, adverse donor reaction.
- calculation of average time spent by the blood donors during the entire procedure.
- frequencies and percentages to be used for analysis of donors satisfaction during the entire process.

➤ **ANALYSIS:** In the month of February, total 70 blood donation cases were captured and categorised into total number of males, females donors, number of deferral cases, number of adverse blood donation reaction, number of voluntary donation.

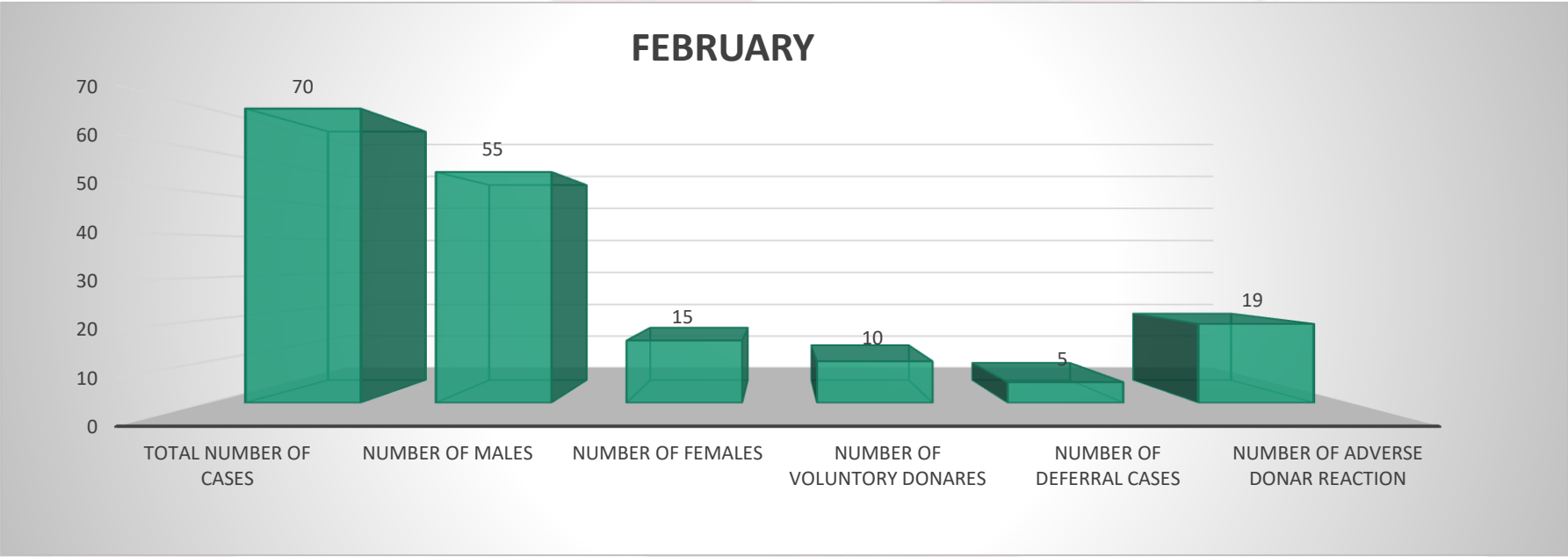
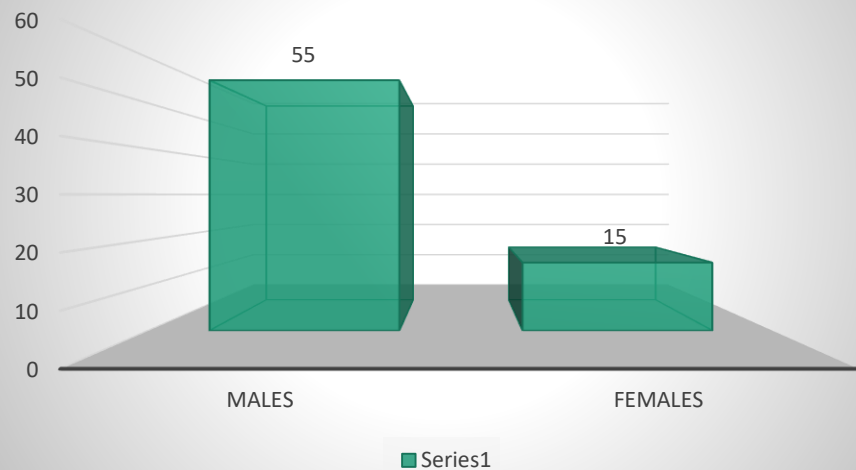
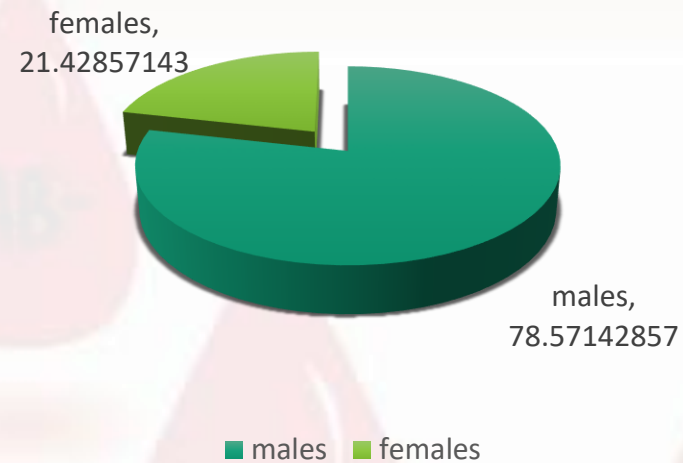


TABLE1: Gender and NABH standards distribution in the month of February.

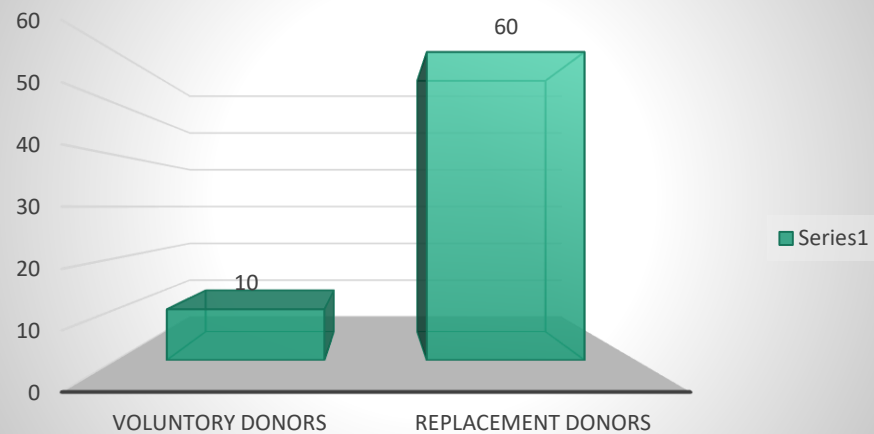
GENDERS



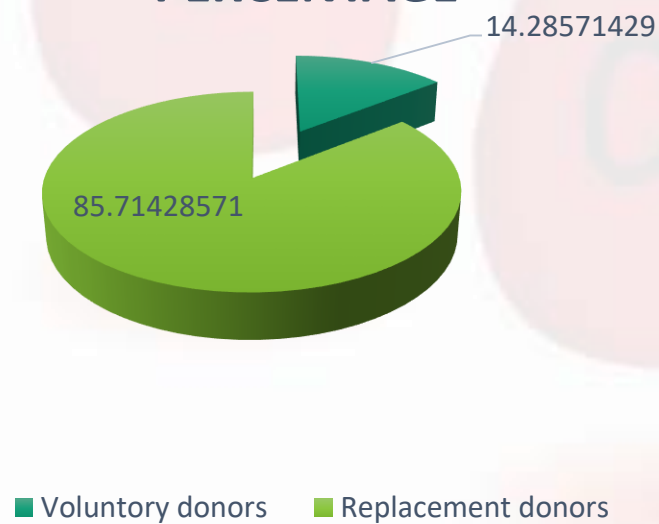
PERCENTAGE

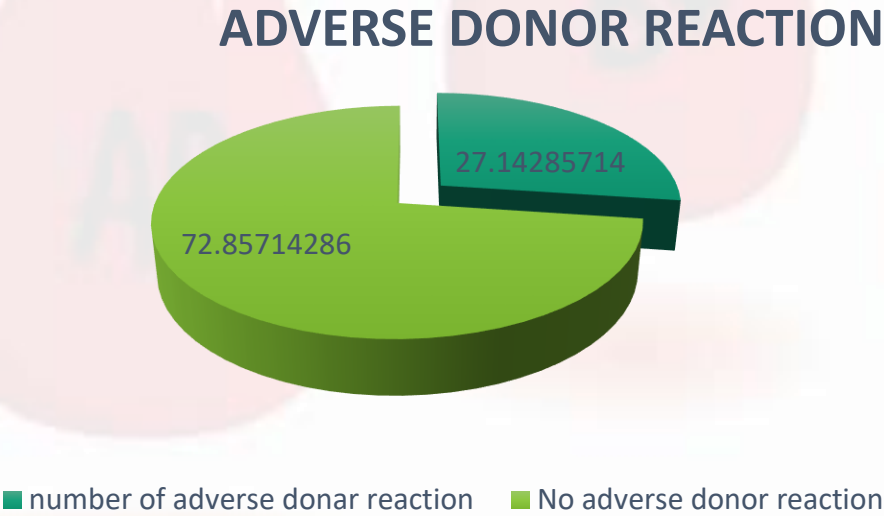
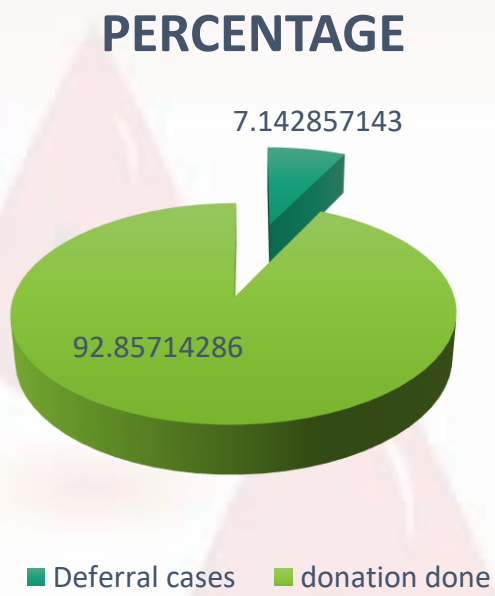
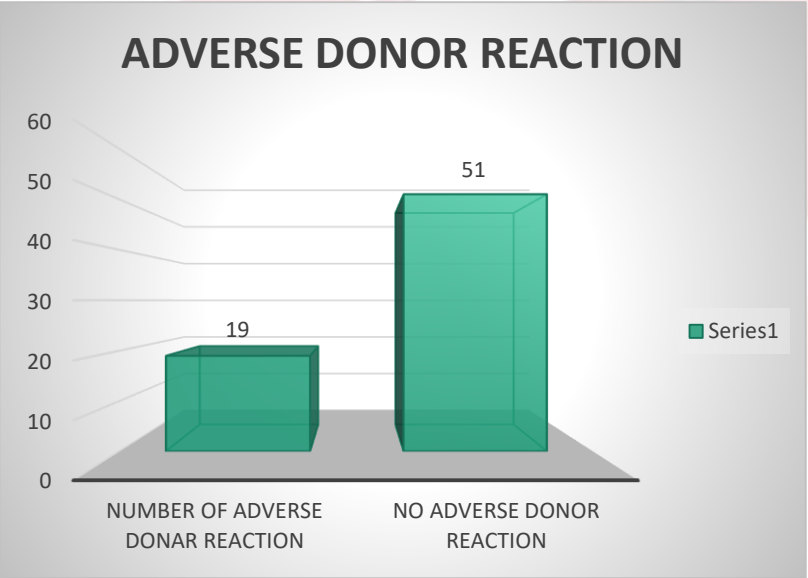
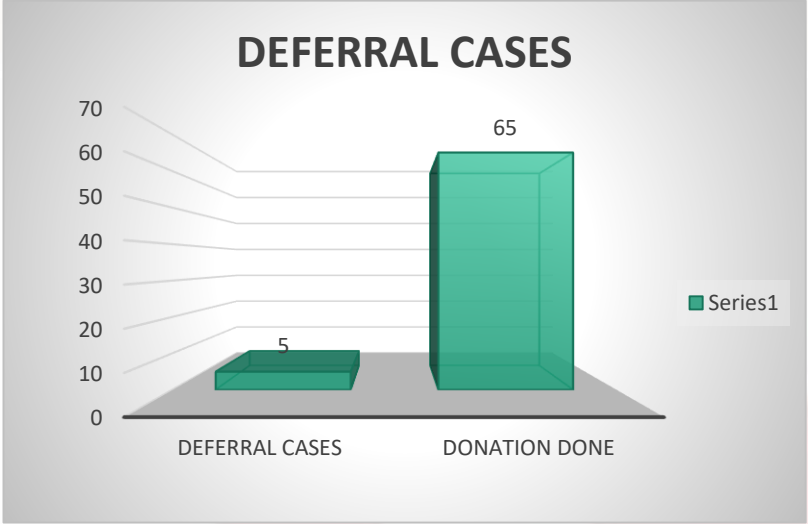


TREND OF DONATION

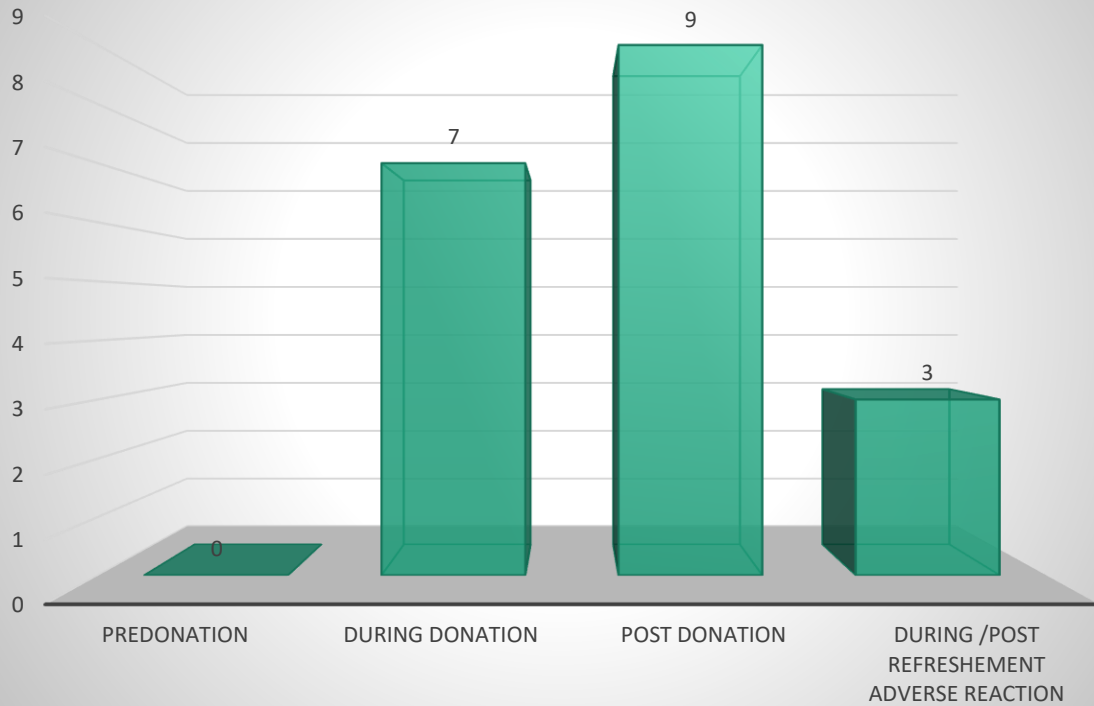


PERCENTAGE

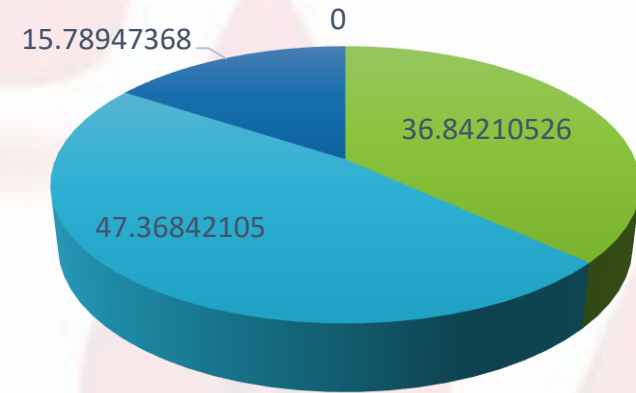




Adverse donor reaction



percentage



- predonation
- during donation
- post donation
- during /post refreshment adverse reaction

➤ INTERPRETATION:

- In the month of February total 70 donation cases were observed, out of which 78.5 percent were males, 21.4 percent were females
- Out of total donation cases taken only 14.2 percent was voluntary donation.
- 7.12 percent were deferral cases.
- 27.12 percent of donors experiencing adverse reaction.
- Pre-donation adverse reaction is 0.00 percent, during donation it was 36.84 percent, post donation adverse reaction was 47.36 percent, and during/post refreshment adverse reaction was 15.78 percent.

➤ In the month of March, total 91 blood donation cases were captured, and categorised as same.

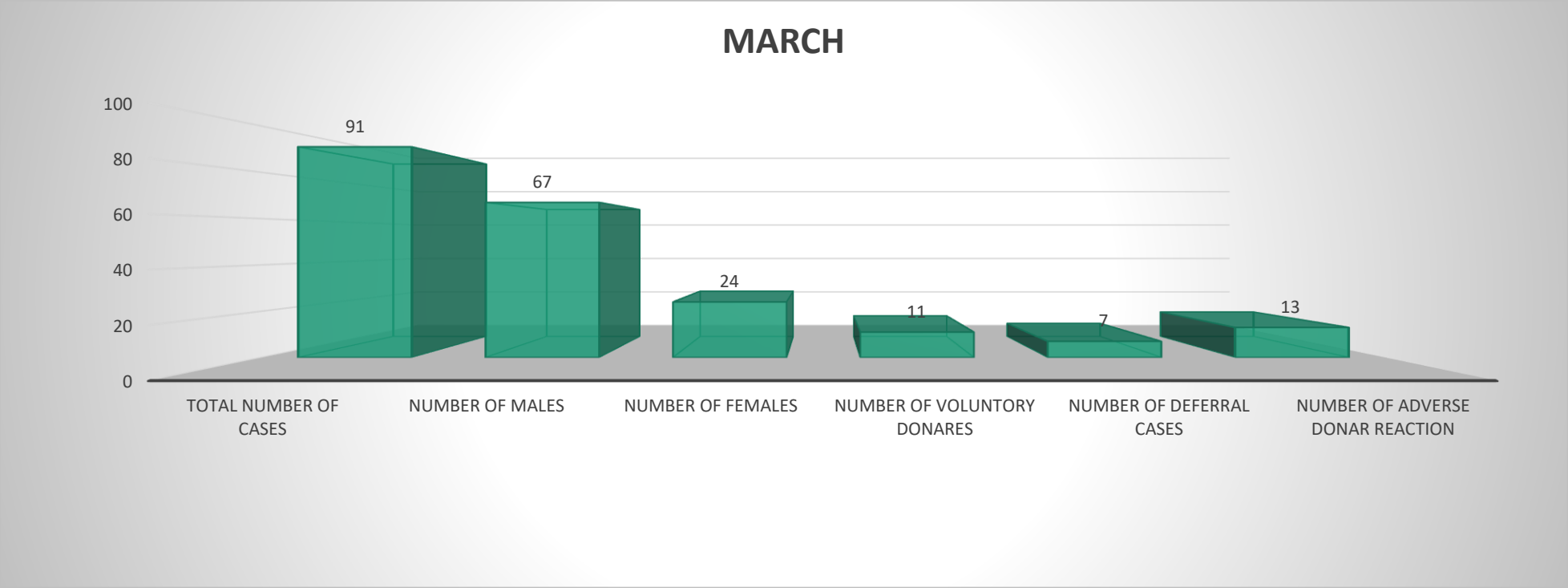
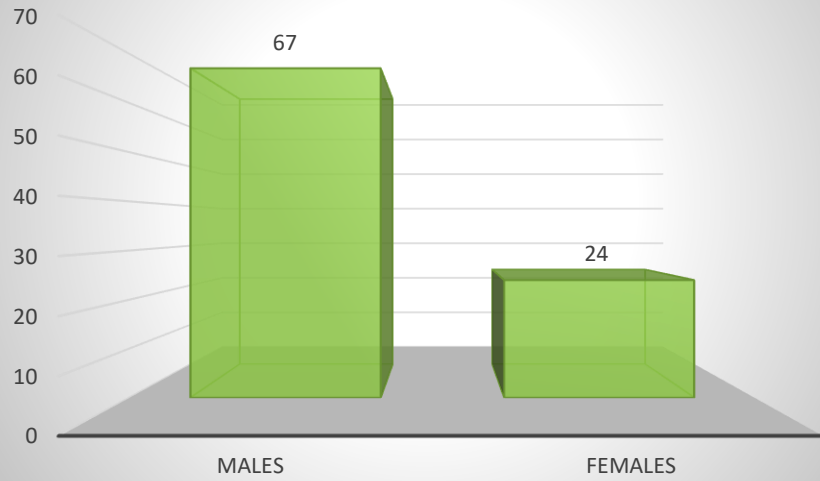
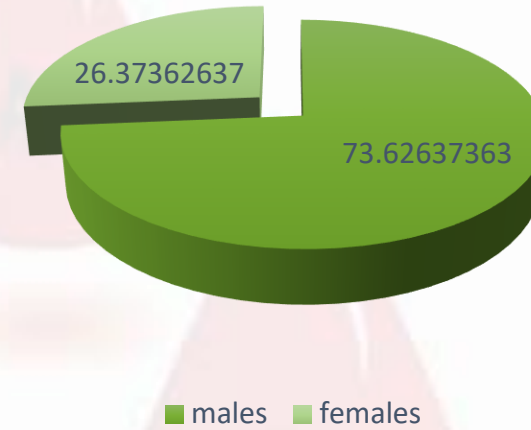


TABLE2: gender distribution and NABH standards distribution in the month of march.

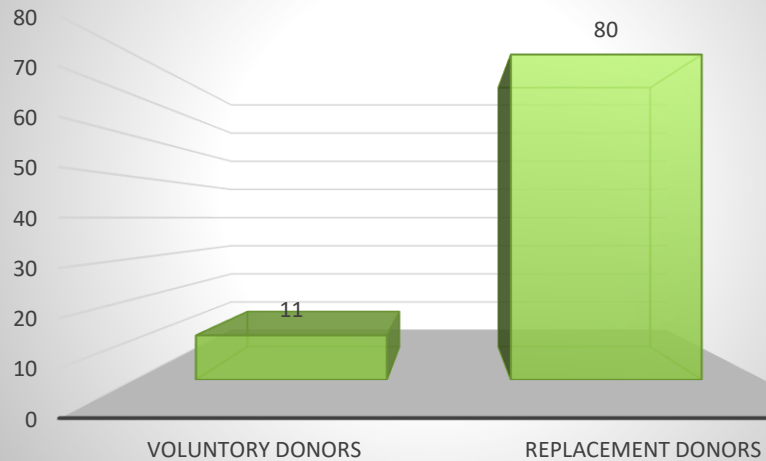
GENDERS



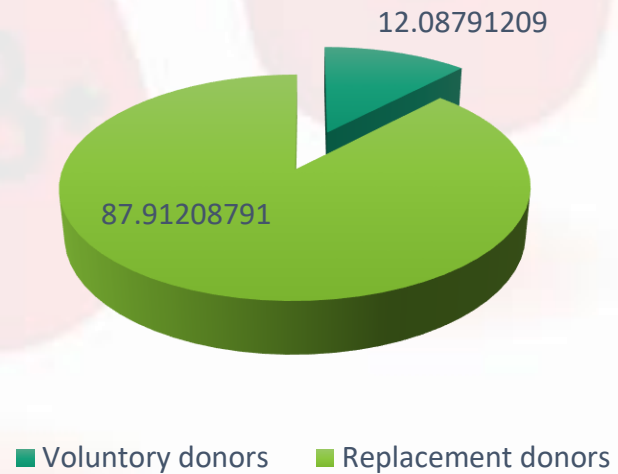
PERCENTAGE



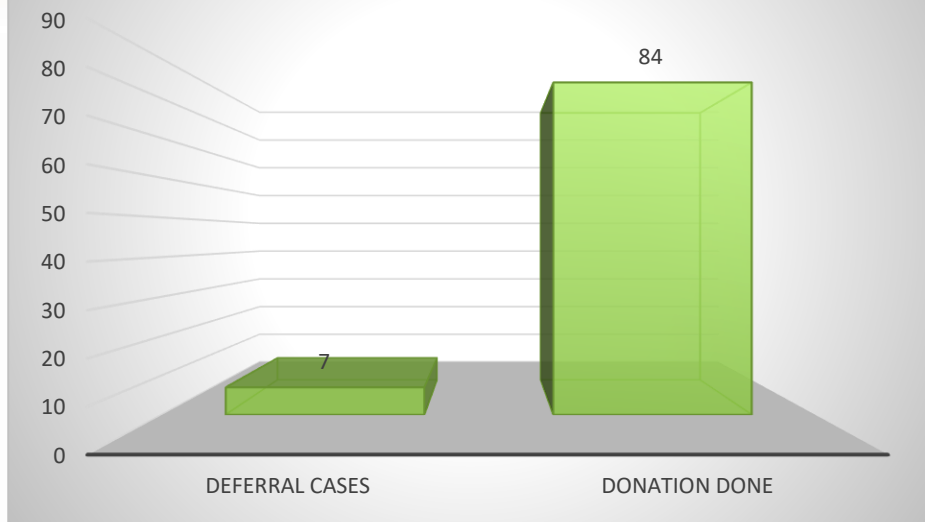
TREND OF DONATION



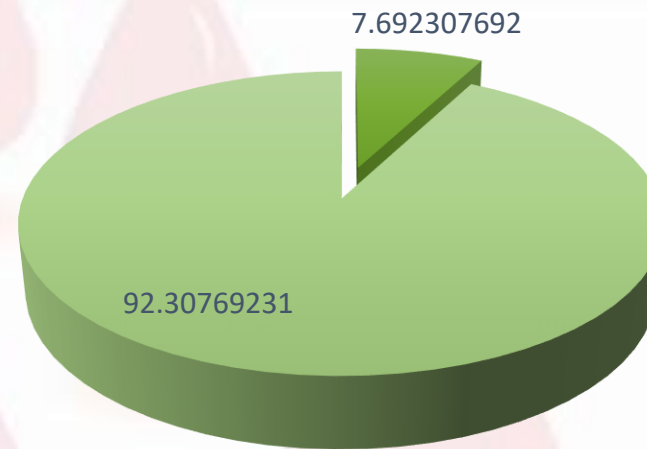
PERCENTAGE



DEFERRAL CASES

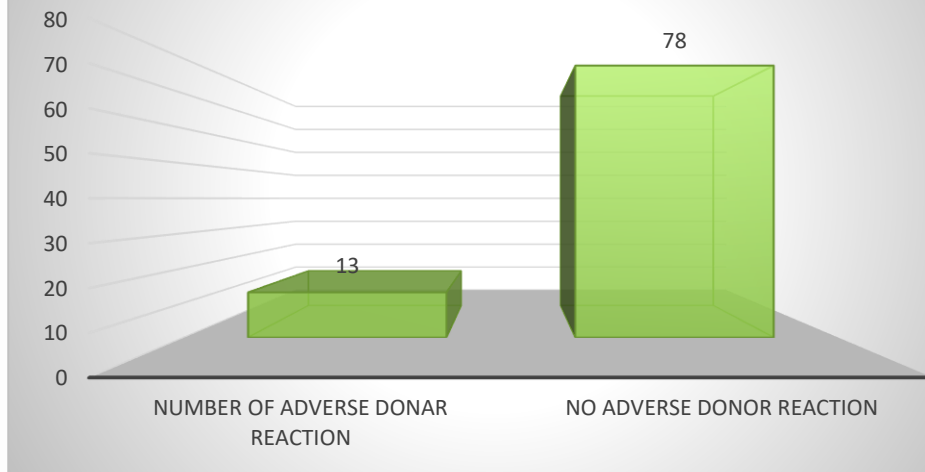


PERCENTAGE

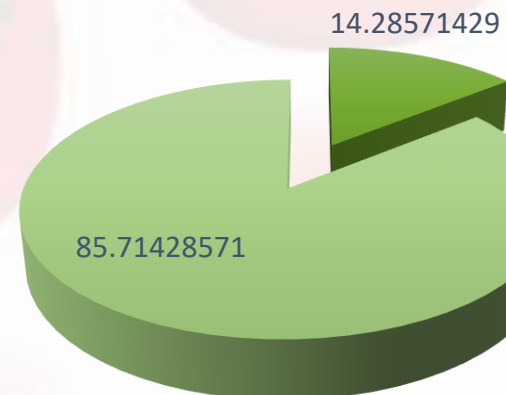


■ Deferral cases ■ donation done

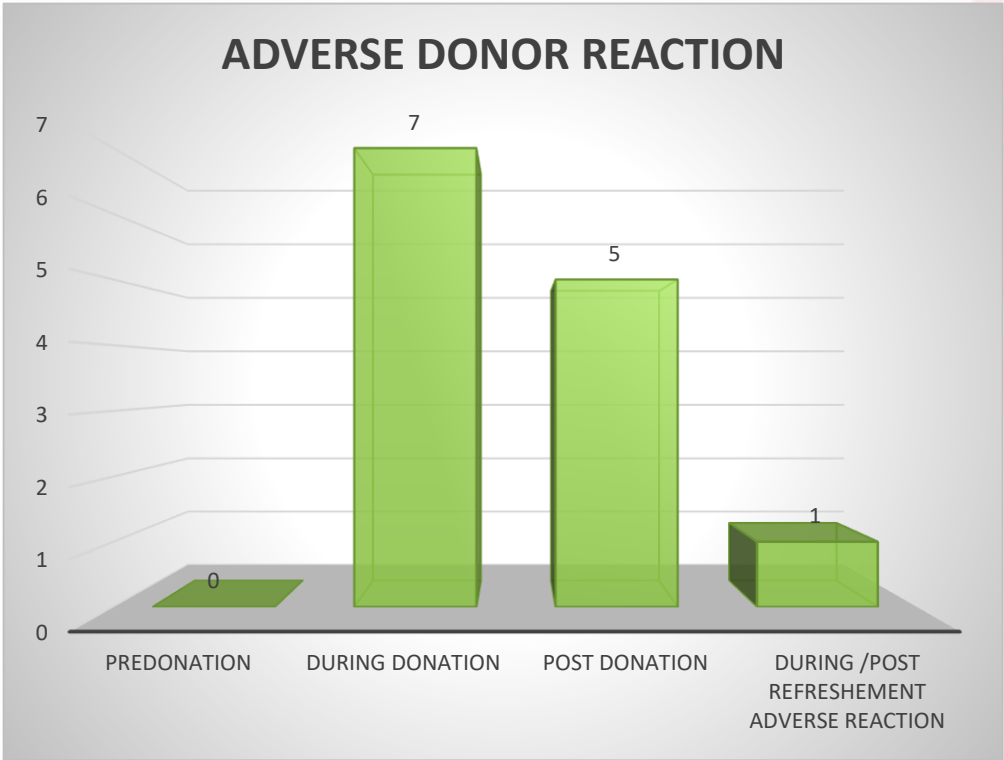
ADVERSE DONOR REACTION



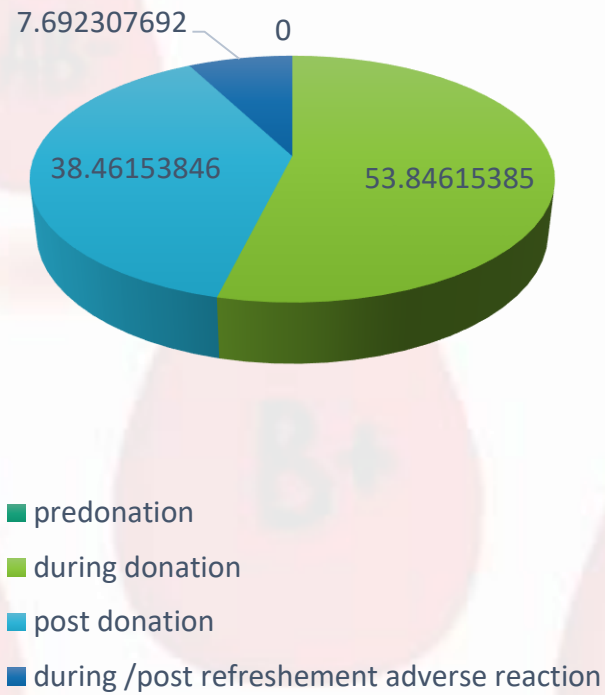
PERCENTAGE



■ number of adverse donar reaction ■ No adverse donor reaction



ADVERSE DONOR REACTION



➤ **INTERPRETATION:**

- In the month of march 91 donation cases were observed, out of which 73.62 percent were males, 26.37 percent were females.
- Number of voluntary donation were 12.08 percent.
- Number of deferral donation observed were 7.69 percent.
- Number of adverse donation reaction observed were 14.2 percent.
- Pre-donation adverse reaction is 0.00 percent, during donation it was 53.84 percent, post donation adverse reaction was 38.46 percent, and during/post refreshment adverse reaction was 7.69 percent.

➤ In the month of April, total 103 donation cases were captured and categorised as same.

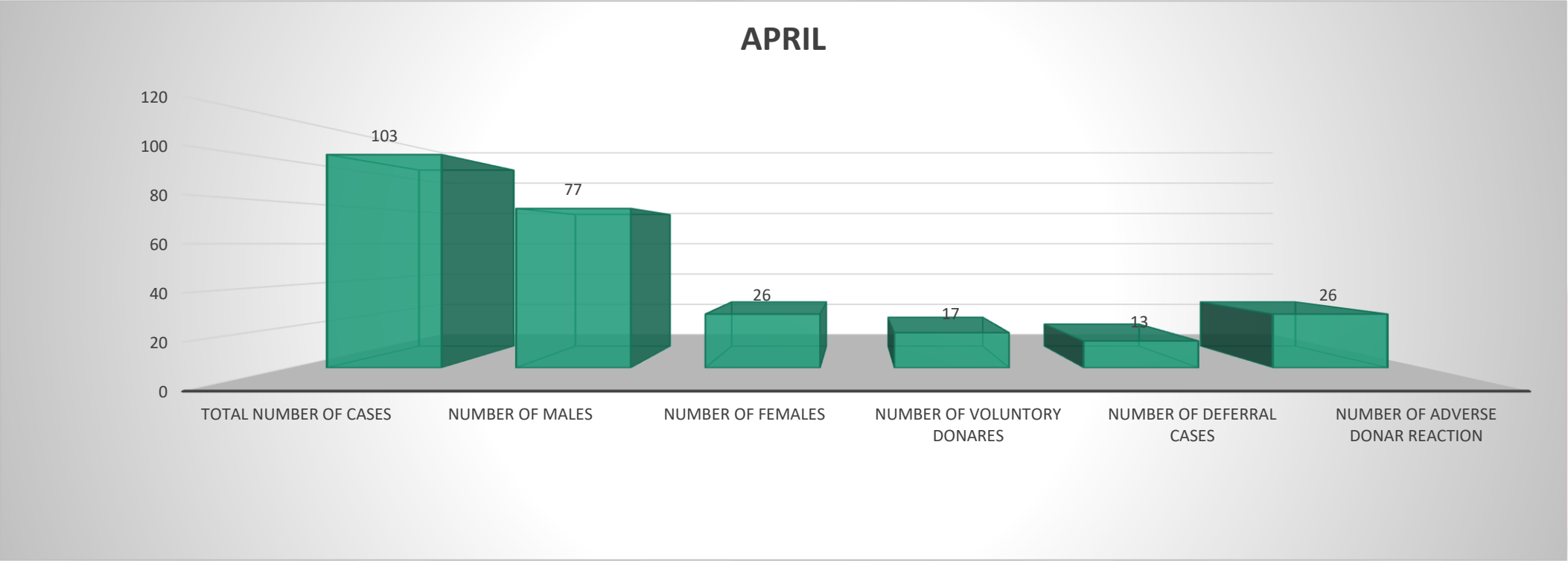
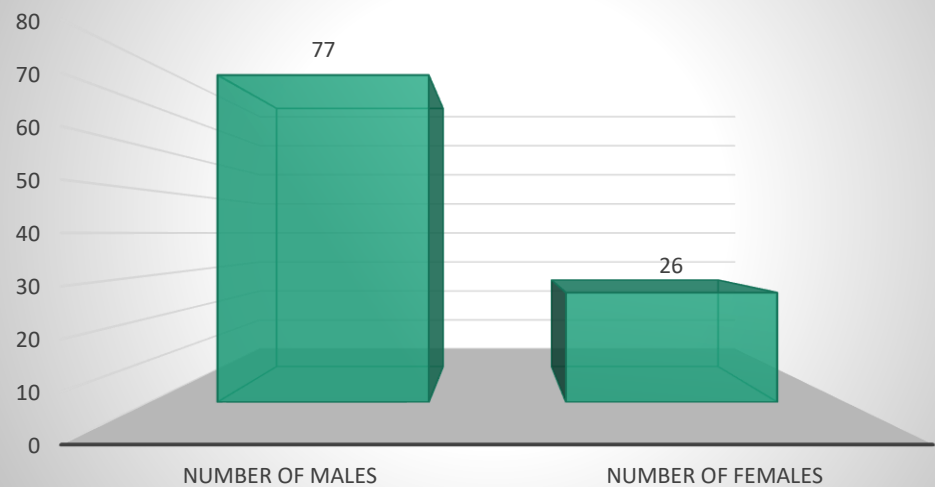
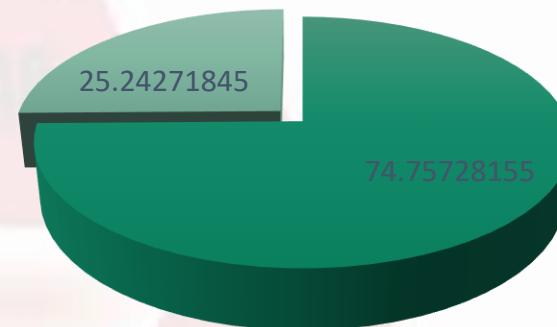


TABLE3: Gender distribution and NABH standards distribution in the month of April.

GENDER

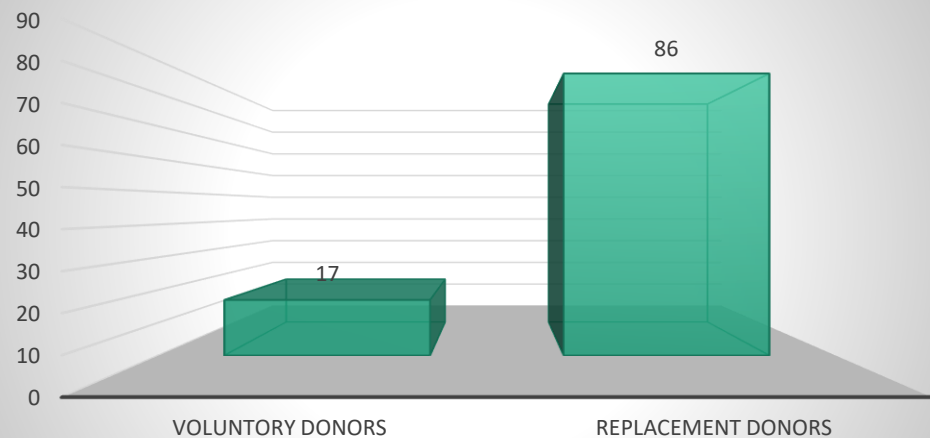


PERCENTAGE

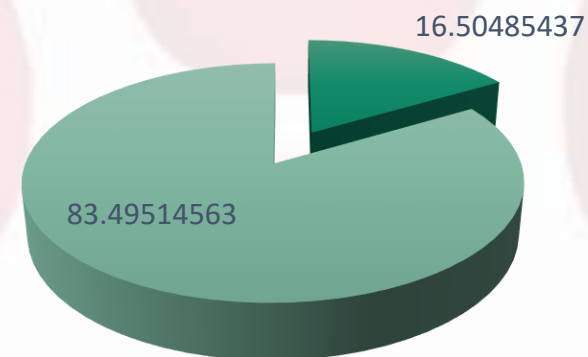


■ number of males ■ number of females

TREND OF DONATION

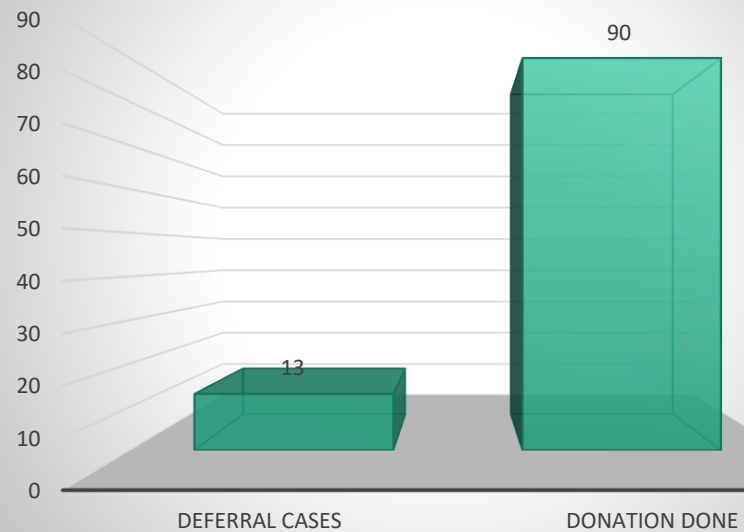


PERCENTAGE

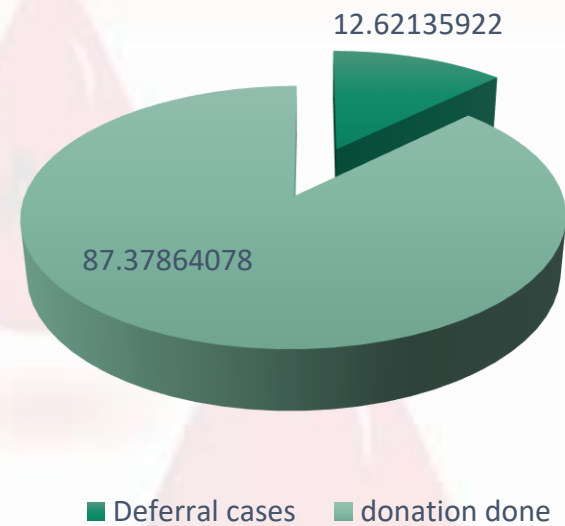


■ Voluntary donors ■ Replacement donors

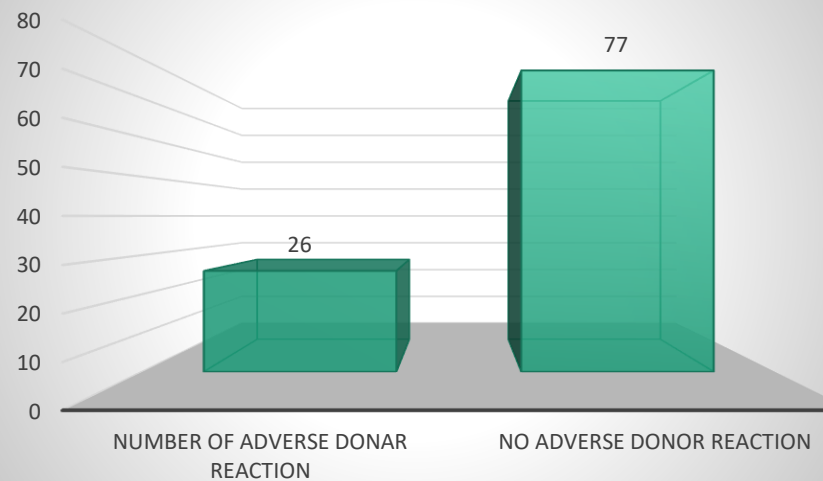
DEFERRAL CASES



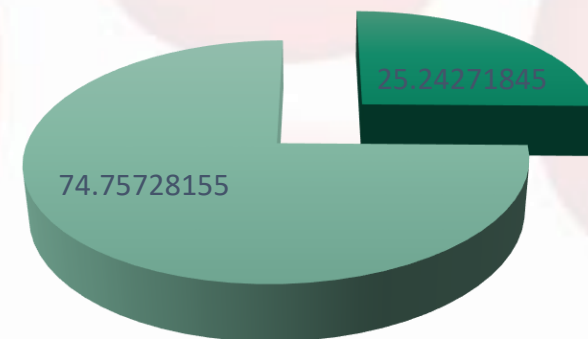
PERCENTAGE



ADVERSE DONOR REACTION

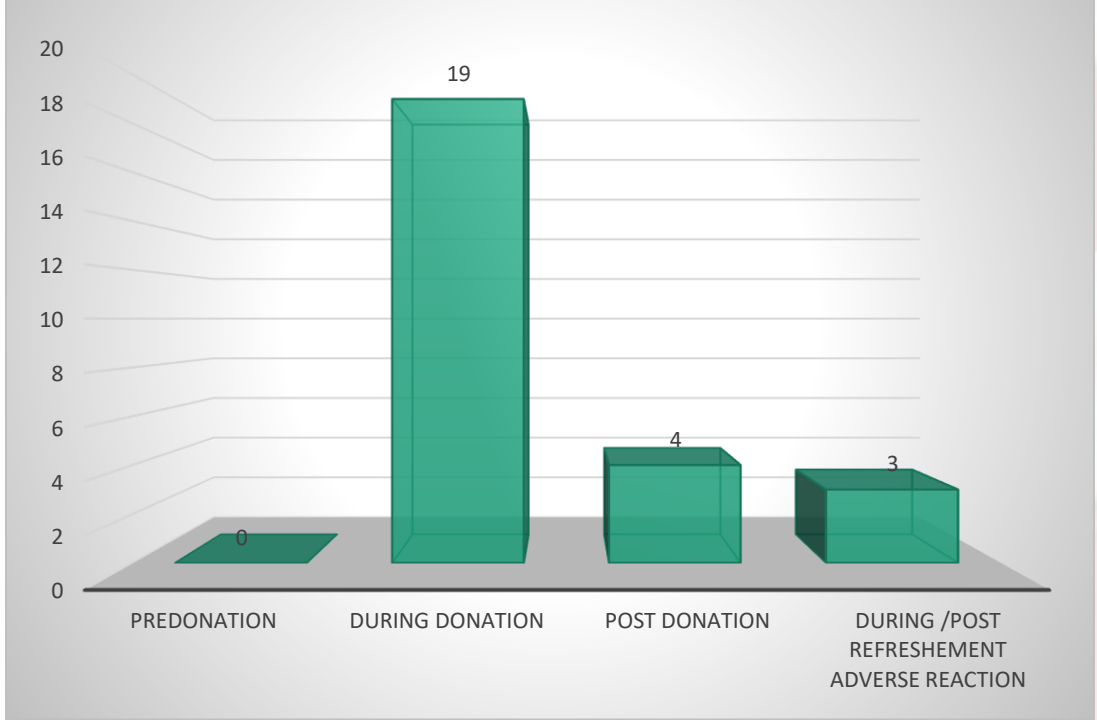


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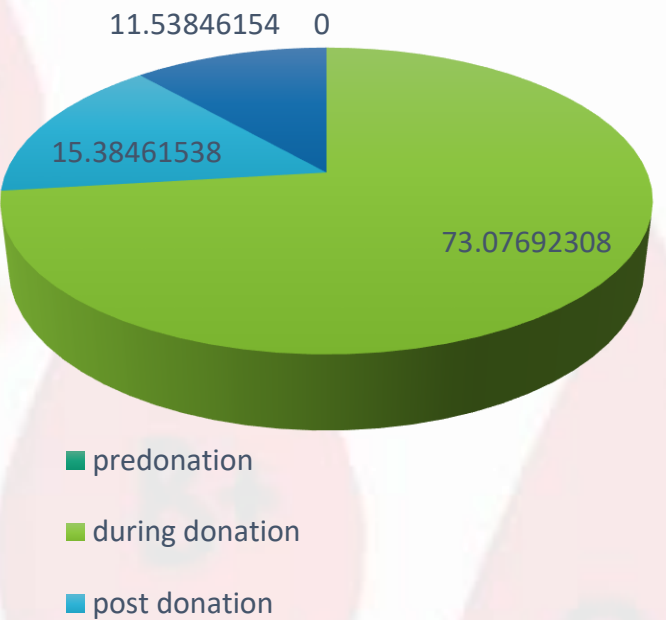


■ number of adverse donar reaction ■ No adverse donor reaction

ADVERSE DONOR REACTION



ADVERSE DONATION REACTION



➤ INTERPRETATION:

- In the month of April 103 donation cases were observed, out of which 74.75 percent were males, 25.24 percent were females.
- Number of voluntary donation were 16.50 percent.
- Number of deferral donation observed were 12.621 percent.
- Number of adverse donor reaction were observed to be 25.24 percent.
- Pre-donation adverse reaction is 0.00 percent, during donation it was 53.84 percent, post donation adverse reaction was 38.46 percent, and during/post refreshment adverse reaction was 7.69 percent.

- Out of the total number of blood donation cases observed total time spent by the blood donors from their interaction at the reception desk to the point post donation counselling occur is calculated.
- In the month of February it was 01hour15minutes, in the month of march it is observed 01hour02minutes, in April it was 01hour10minutes.

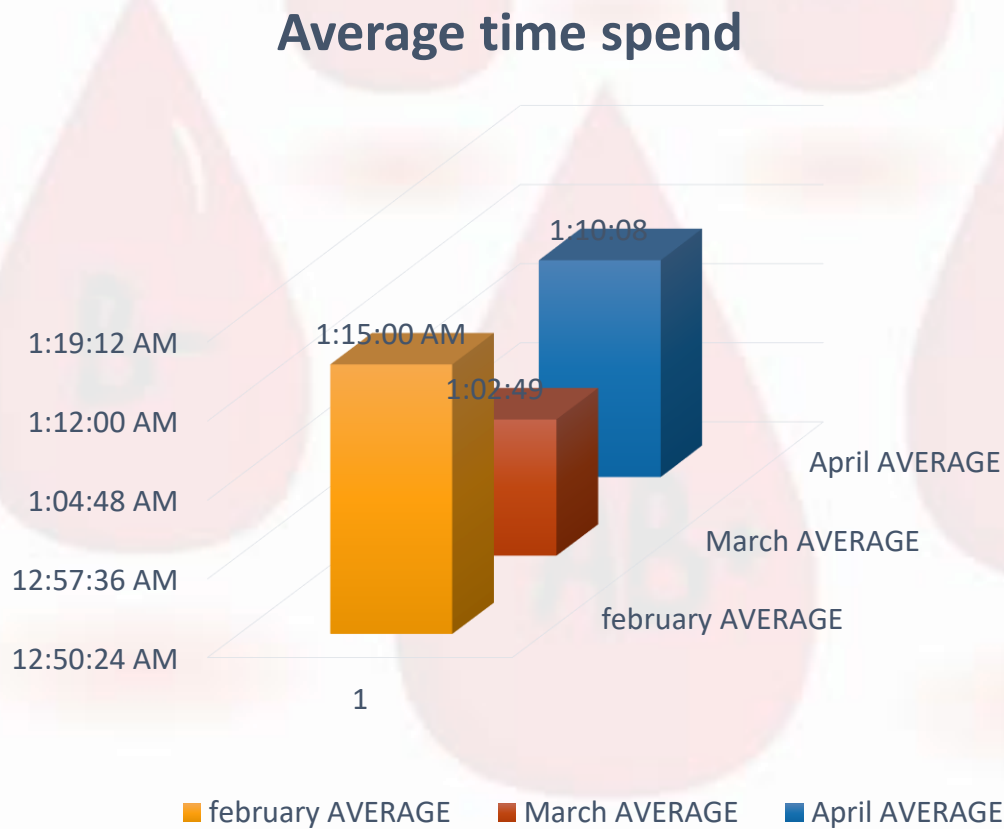


TABLE 4: Average time spent by the blood donors in the month of February, March, April.

GAP- IDENTIFIED ACCORDING TO NABH STANDARDS:

PRE-DONATION

- Encouraging for repeat donation was not done by the staff.
- Sometimes pre-counselling about the tests was not mentioned to the donors.
- Multi-task at the reception desk.
- Sometimes absence of staff during pre-screening process.
- Questionnaire asked to the patient was too long, no proper guidance and not in local language.
- Confidentiality of the questions asked are not maintained.

DURING-DONATION

- No gaps identified during blood donation process according to NABH standards.
- Blood donors were satisfied with services and phlebotomist skills.
- Sometimes more than one venipuncture were done depending on donors.

POST-DONATION

- Post-care advice and cautions for adverse reaction was totally missing.
- Post-care advice display is missing in blood collection room.
- Sometimes too much of waiting time for the donors.
- Females with low haemoglobin were not educated and motivated for next time donation.

➤ SUGGESTIONS:

PRE-
DONATION

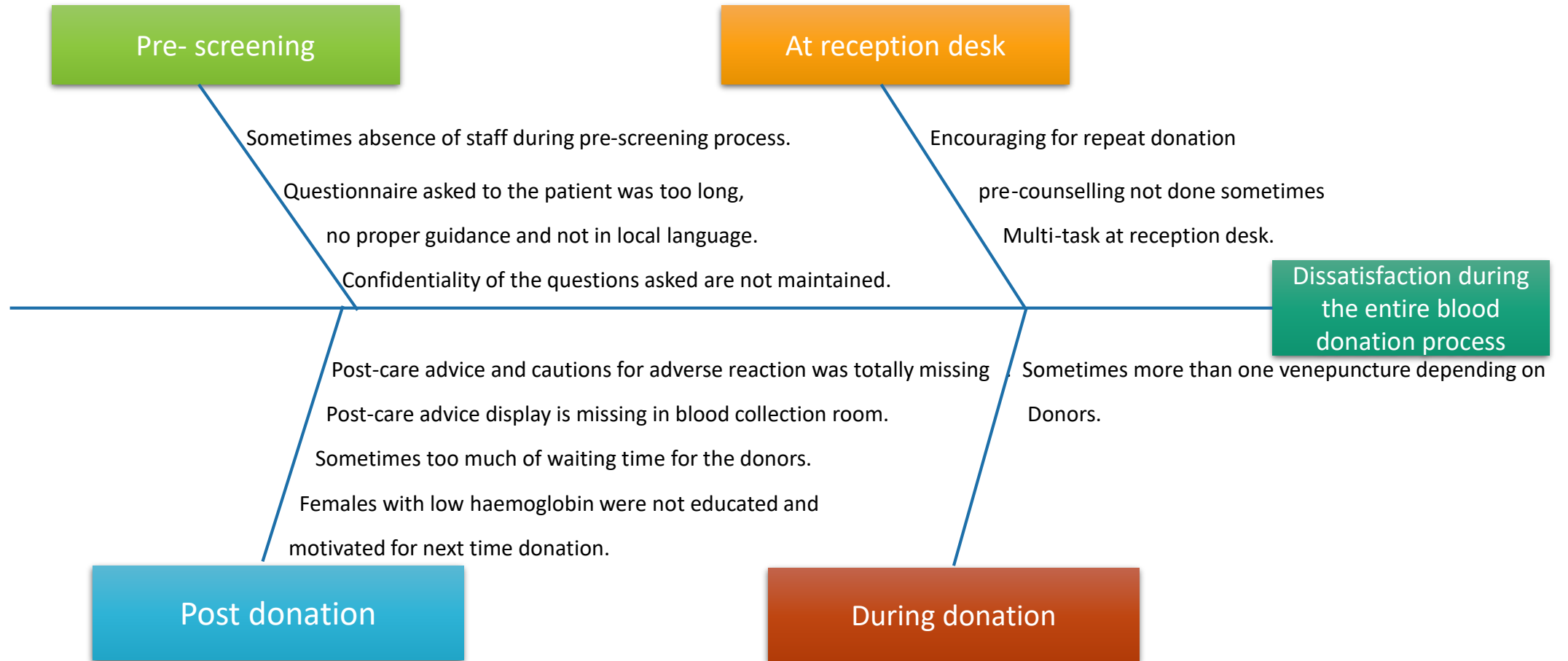
- Encouraging donors for repeat donation.
- All one-time donors should be made aware that repeated donation at a proper gap of 3months is an absolutely healthy practice so as to increase voluntary donation which is very less in all the months.
- Proper shifts of the staff should be maintained to avoid multi-task at reception desk and also the long waiting time during pre-screening process.
- Questionnaire should be printed in local language along with proper guidance.

DURING
DONATION

- Availability of phlebotomist during the time of donation.
- Standards should be maintained for future also.

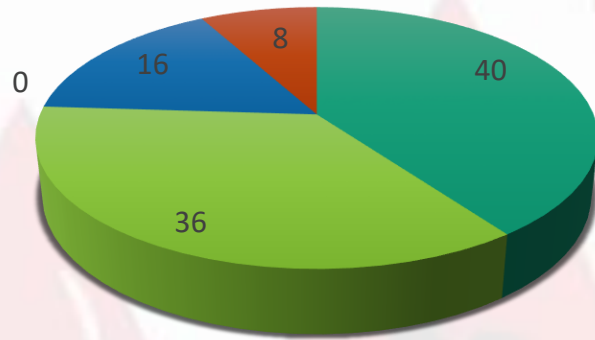
POST-
DONATION

- Post-care advice should be given to each and every donor at refreshment room.
- Post-care advice should be displayed in collection as well as observation area in local language also.
- Female donation should be encouraged more.
- Blood group should be mentioned in the certificate they get or they should be informed by mail.



- DONORS SATISFACTION WITH THE CURRENT BLOOD DONATION PROCESS:**

RECEPTION INTERACTION

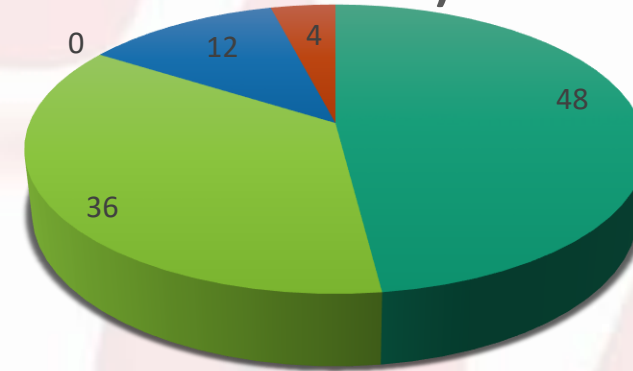


■ Satisfied
 ■ strongly satisfied
 ■ neutral
 ■ dissatisfied
 ■ strongly dissatisfied

FIGURE 4.1: Percentage Distribution of donors at the reception desk

Blood donors satisfaction level during the entire blood donation process varies at each step like many of the blood donors were satisfied during their interaction at the reception desk i.e. 40percent were satisfied, 36percent were strongly satisfied.

SERVICE BY THE PHLEBOTOMIST(DURING DONATION)



■ Satisfied
 ■ strongly satisfied
 ■ neutral
 ■ dissatisfied
 ■ strongly dissatisfied

FIGURE 4.2: Percentage Distribution of donors during blood donation

During blood donation 48percent were satisfied, 36percent were strongly satisfied with the phlebotomist skills.

PRE-SCREENING

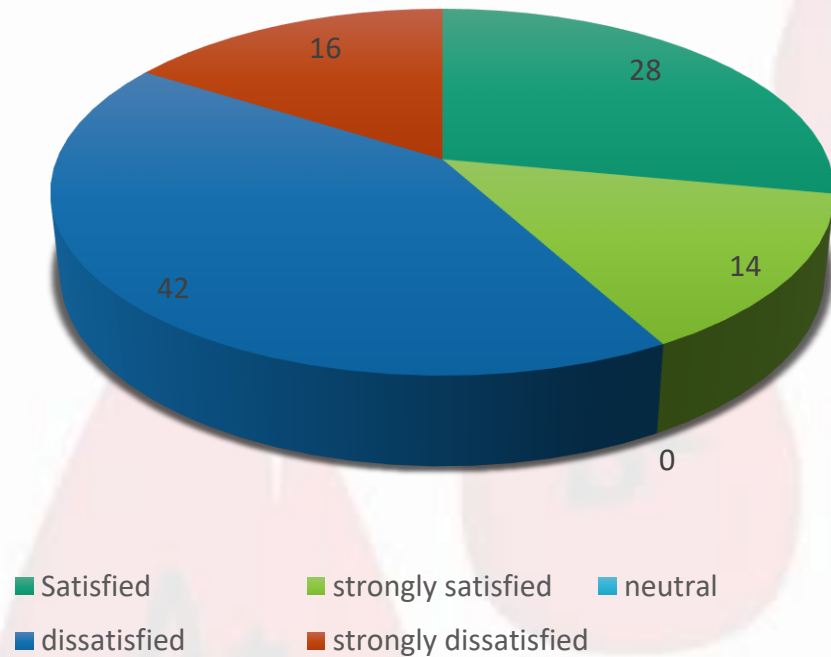


FIGURE 4.3: Percentage Distribution of donors during pre-screening

During pre-screening of the donors around 28percent were satisfied and 14percent were strongly satisfied and maximum blood donors were dis-satisfied around 42percent, and 28percent were strongly dissatisfied

POST-DONATION

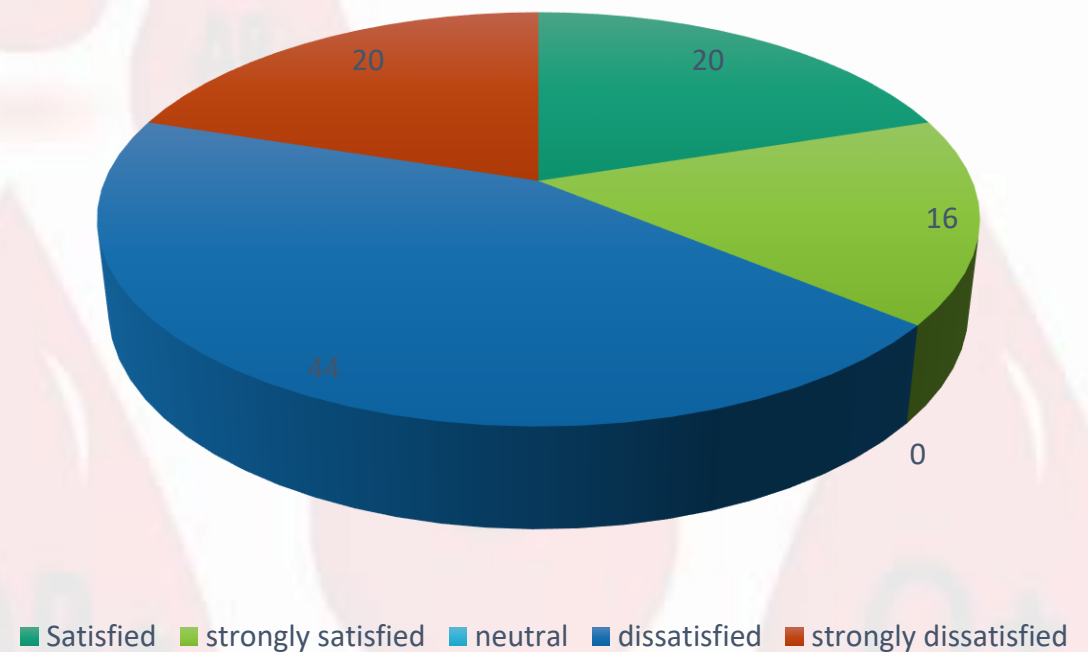


FIGURE 4.4: Percentage Distribution of donors during post donation

Post-donation 20percent were satisfied and 16percent were strongly satisfied. And majority of donors i.e. 44percent were dis-satisfied and 20percent were strongly dis-satisfied.

BLOOD DONATION CAMP ORGANIZED BY THE HOSPITAL ON 31ST MARCH 2019.



**DURING
REGISTRATION**



DURING DONATION



