Summer Internship Report
At
Artemis Hospital
(April 7th to June 6th, 2022)

A Report
By
Tanvi Malviya

PGDM (Hospital and Health Management)
2021-2023

International Institute of Health Management Research , New Delhi

Table Contents

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Abbreviations

- NABH- National Accredation Board for Hospitals
- JCI- Joint Commission International
- LDPRC-Leukodepleted Packed Red Blood cells
- LDPRC is removal of white blood cells from the blood .
- RDPC- Random donor palatelet Concentrates
- FFP – Fresh frozen Plasma

Acknowedledgement

This Project report is the result of two months of improvement project whereby I have been accompanied and supported by many people . It is a pleasant aspect that I now have the opportunity to express our gratitude to all of them.

My University , International institute of Hospital Management (IIHMR), Delhi deserves the foremost appreciation for providing me the opportunity to understand my capability – Quality & System Artemis Hospital , Gurugram in completion of this project.

I would like to express my gratitude to the quality team members comprising of Ms. Pinky mol Jose , Dr. Ritika Batra, Mrs. Anshi Chawla and Mrs. Richa Upadhya . For their support and help throughout the project without which this work would not have been materialized.

I would like to thank all for contributing their precious time and valuable inputs during my study and providing me the opportunity to work on “Blood Transfusion Audit” Project .

SYNOPSIS (1.0)

Observation Study of " BLOOD TRANSFUSION AUDIT IN ARTEMIS HOSPITAL "

PG/21/119

Name of the student: Tanvi Malviya

Name of the supervisor: Dr. Sumant Swain

1.1 Introduction :

Artemis hospital at Gurugram is a NABH & JCI Accredited , 350 bed tertiary care super speciality flagship hospital a healthcare venture launched by the promoters of the Apollo Tyres Group.Artemis aims at creating world class healthcare system by leveraging the best medical practices backed by cutting - edge technology.

- Audit is a method of improving quality of patient care by collecting data and comparing them with the accepted standards and incorporating necessary changes.
- Blood Transfusion is a life saving intervention and can be associated with a significant number of incidents which can be life threatening . It has also been shown that a good number of these are due to human errors . Regular audit helps in identifying area of errors thereby decreasing the number of transfusion related adverse incidents.
- Quality improvement activities are undertaken to reduce the risks of patients harm from transfusion practices and the clinical use of blood and blood products.

1.2 Objective :

To define processes and protocols for safe transfusion of blood and blood products.

- Managers implement systems to ensure the safe appropriate, efficient and effective
- Clinical workforce use blood and blood product safety systems.

1.3 Methodology :

Study Design : A Cross sectional study design will be followed . This study is based on collection of information about patient during process of care.

Study Period : The study would be conducted from 1st May to 5th June

Study Area: The data would be collected from Intensive care unit (ICU), Blood Marrow Transfusion (BMT), Operation Therapy(OT), Chemo day, Blood Bank.

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- **Sample Size :** For the study a total of 60 patients blood transfusion documentation are audit . In consider with –

Chairperson of Blood Bank "Dr.. Anil Kheterpal"
Nursing Staff " Ms. Santosh Kumari"
Chief critical care unit & Chief Medical Quality "Dr. Jeetendra Sharma".

Data collection : Collect the information from blood bank that from where blood is issued, Here like area (ICU, BMT, Chemo day, OT) .

Check the document of blood transfusion-

- Request form
- Issue form
- Compatibility form
- Consent form
- Yellow slip

In this the name of the component , the donation identification number , the date and time of transfusion , pre and post transfusion, vital signs, the amount of transfused blood. To assist in monitoring all aspects of blood management and transfusion practice, to identify gaps and areas of improvement.

1.4 Procedure , Analysis & Result:

- Policy:

Employees must follow blood transfusion policy for safe transfusion process.

- Purpose:

To define processes and protocols for safe transfusion of blood and blood products.

- Scope:

Hospital wide

- Responsibilities:

All employees and Consultants.

Procedure

- The department of blood and blood transfusion is headed by a qualified individual who oversees the functioning of the department.
- Clinical guidelines and procedures are followed for handling, use and administration of blood and blood products.
- Department has adequate number of well trained transfusion medicine specialists who ensure adherence to regulations and standards of practice.
- The department has established and implemented processes for blood donor selection, blood collection, storage, compatibility testing and issue to the patients.
- There are quality control measures in place to check reagents, tests and blood products.
- The department has valid Food and Drugs Control Administration license to operate.

Handling, use and administration of blood and blood products: ¬

- There is an established procedure to ensure patient identification, correct sample collection, compatibility testing, administration and monitoring of patients.
- The nurse identifies the patient using two identifiers i.e. full name & Unique Hospital Identification (GNID) before drawing the blood samples.
- The nurse sends the patient blood sample (lavender-top tube) for blood grouping and antibody screening to the blood bank for all admitted patients.
- The physician takes history of previous blood transfusion and its adverse reactions, if any and documents in the medical record. Only a registered medical practitioner can order blood products/sign the blood component requisition form.
- The doctor explains the procedure and need of the blood product transfusion to patient and family and documents it in the informed consent form for Blood transfusion. The first unit of transfusion requires consent. Subsequent units if given in continuity do not require separate consent.
- Obtain separate consents for all units separated by more than 24 hours.
- The physician obtains written informed consent and documents in the patient's medical record prior to transfusion of blood/blood products
- When consent is obtained for an operation, procedure, or treatment, the patient is made aware that transfusion may be necessary at any point during the course of the treatment/therapy along with alternatives and risks. explained to the patients and relatives
- If, however, transfusion is required for a problem unrelated to the operation, procedure, or treatment, obtain an additional "Consent for Transfusion of Blood/Blood Components".
- The first unit of transfusion requires consent. Subsequent units if given in continuity do not require separate consent
- ¬ Obtain separate consents for all units separated by more than 24 hours
- ¬ The physician obtains written informed consent and documents in the patient's medical record prior to transfusion of blood/blood products
- ¬ In case of any emergency blood transfusion required during a surgical procedure in the Operation Theatre, the consent is a part of surgical consent form
- ¬ The doctor then raises the request for blood components. The nurse checks the doctor's order for the type of blood product. The nurse checks the blood group report in the HIS before sending the request form for blood component
- ¬ A second blood sample (leavendar-top tube) is required if Red Blood Cells need to be transfused. This sample is required for cross-matching and is drawn by the nurse. ¬
- At the time of actual need, the nurse sends the "issue slip" to the blood bank.

Note: Send requests for frozen products (FFP, cryoprecipitate) to the Blood Bank 45 minutes before needed

- Assess the patient for a history of transfusions and transfusion reactions.

- Monitor and record baseline vital signs as per the laid down protocol. ¬ Pre-medicate patient, if prescribed.
- Blood product is collected from the blood bank in an insulated carrier for transport. ¬ Insulated carriers are readily available (hemovigil process)- Mention about the special container used in the Blood bank
- The transfusion nurse tallies the blood components procured with those mentioned in the compatibility report and physically checks for any discoloration and any clots in the blood bag.
- The transfusion nurse performs hand hygiene. If any discoloration or clot is found in the blood bag it is immediately returned to the blood bank along with the issue slip with "reason for return" mentioned on it.
- The blood component issued from the blood bank can be accepted back within thirty minutes from the time mentioned in the blood bank issue register/Hospital Information System (HIS)
- The nurse informs the doctor on the floor for double-checking the unit.
- Two licensed staff members (one must be an RN and/or physician
- Verify audibly and view concurrently the following:
- Blood component with physician's written orders. A repeat-back of a verbal order from a physician is allowed in a life-threatening emergency or hemorrhagic shock situation
- Expiration date of blood component
- Patient identity by following:
    - Patient name with surname
    - GNID
    - Blood group and Rh typing
- Patient name with surname and GNID on the identification Wristband and the blood Transfusion Administration Record;
- Blood bag and the Transfusion Administration Record. The Transfusion Administration Record remains with the blood bag throughout the transfusion
- Both staff members sign the chart copy of the Transfusion Administration Record.
- For neonates or small pediatric patients aliquot in bag may be requested if needed.
- Connect the blood components to the blood transfusion set
- Administer blood directly through patient's venous access.
- Begin transfusion slowly, unless directed by physician, and monitor the patient closely during the first 15 minutes for signs of acute reaction.
- The transfusion nurse calculates flow rate and before executing the order, instructs the patient to report any chills, itching, rash or any unusual symptoms during the procedure.
- If patient is stable, adjust rate as prescribed.
- In the Operating Theatre (OT), the anaesthetist verifies and documents in anaesthesia form.

- **Monitoring**

- In case of packed red cells transfusion, the assigned nurse monitors vital signs (body temperature, Heart Rate, Pulse and blood pressure) before start of the procedure, after 15

minutes and then every one hour till the end of the transfusion. Thereafter vital signs are monitored one hour after completion of transfusion.

- In case of other blood components, vitals are monitored before starting, after 15 minutes and then at the end of the transfusion and an hour after the end of transfusion.

• Discard of blood bags

- All the empty, unused and partially used blood bags are sent to the blood bank for disposal:
- All empty, unused and partially used blood bags are sent in yellow bio-hazard bag by the nurse / technician (in case of OT) to blood bank.
- At the blood bank, these are placed in a yellow colored bio-hazardbin.
- Blood bags that are returned partially used or unused are kept in a separate bin for autoclave and the records are maintained in autoclave / discard register. Evidence of functionality of autoclave is maintained through a chemical indicator.

• Transfusion Reaction

- If any adverse effects of transfusion are observed:
- Immediately clamp off the tubing as close to IV site as possible, to prevent additional blood that is in the line from being transfused to the patient.
- Keep line open with 0.9% Sodium Chloride.
- Verify correct unit has been given to correct patient.
- Contact physician to determine how to proceed. For some reactions such as mild febrile or allergic reactions, physician may order antipyretics or antihistamines, and restart transfusion after 20 minutes if symptoms subside.
- Do NOT disconnect unit until it is certain that transfusion will NOT be restarted.
- Call blood bank to report symptoms of any adverse effect of transfusion.
- For all significant reactions (non-febrile, non-allergic), the blood product bag/bottle must be returned to the blood bank, even if it is empty, along with blood giving set
- The chart on Adverse Effects of Transfusion gives general guidelines on how to proceed with the resolution of any adverse events, but a physician must assess each event.
- Document all observed signs and symptoms in the clinical progress notes and include any intervention or action taken.
- Fill up Transfusion follow up form and send it to the blood bank for documentation and audit purposes.

• Patient/Family Education

- Educate patient and family on the purpose of the transfusion, procedure, symptoms of an adverse reaction with alternative to transfusion

• Documentation

- Transfusion Procedure:
    - Complete the Transfusion Administration Record and place in the patient record.
    - Document volume infused in the Intake section of the flow sheet;
    - Document the administration, including the beginning and ending times of transfusion, patient education, all patient monitoring data (vital signs, etc.) and patient response to transfusion.

- Transfusion Reaction:
    - Consult with responsible physician to assure completion of the "Report of Suspected Transfusion Reaction" form.
    - Any suspected reaction is analyzed for preventive and corrective actions.
    - Return Transfusion Administration Record to Blood Bank
    -
- Document patient/family education in the Teaching Record or Notes, as applicable to area.

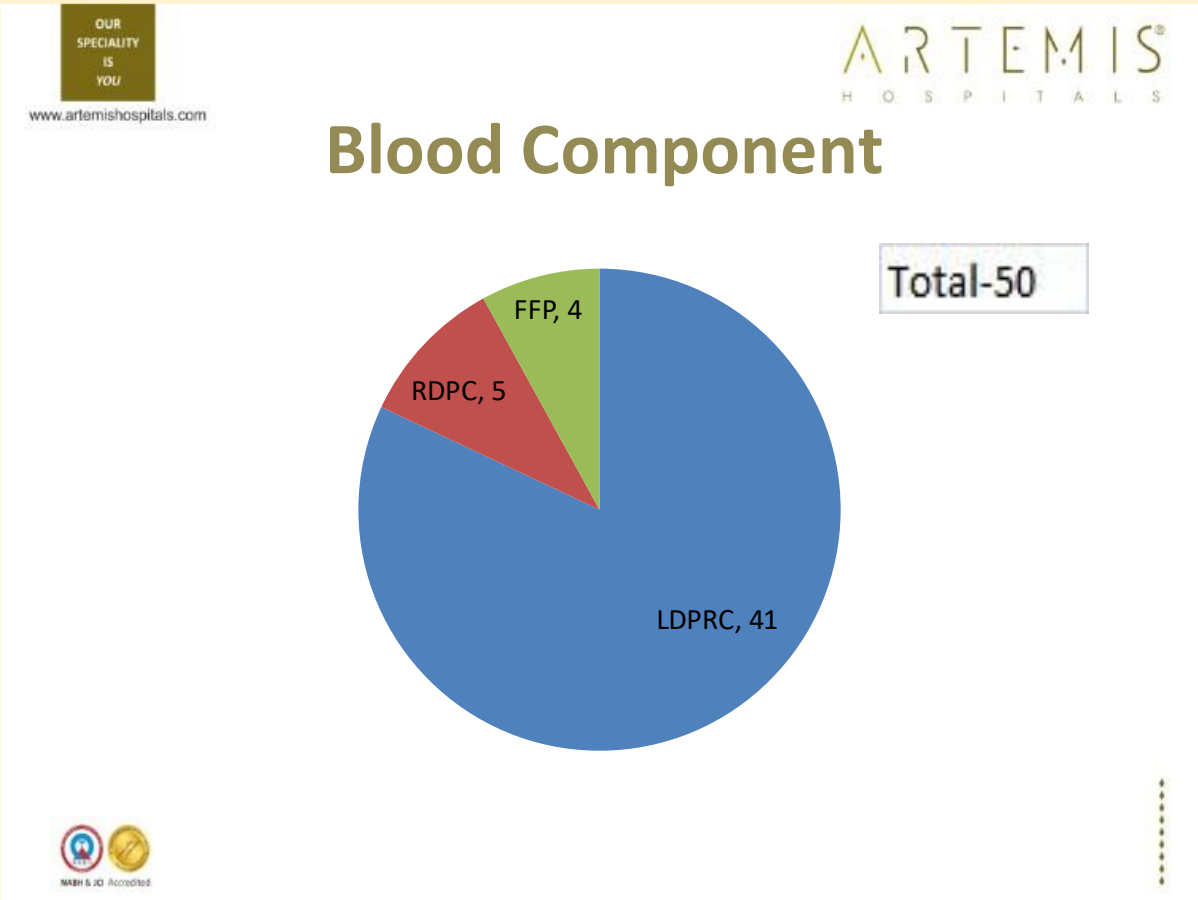
Blood & Blood Products availability in case of Emergency:

- In case of availability of blood with the blood bank, blood can be issued
    - Group-Specific,
    - without cross match immediate - 10 min
    - After cross matching 30 min - 45 min
- In case blood is issued without cross match in emergency, compatibility testing must be proceeded with and the results intimated to the treating consultant.
- In extreme cases where there is no time for taking the sample and testing,
- O Negative blood, preferably packed cells can be given on the request of the clinician.
- In case of non-availability of the particular group in the blood bank alternative blood group can be given:

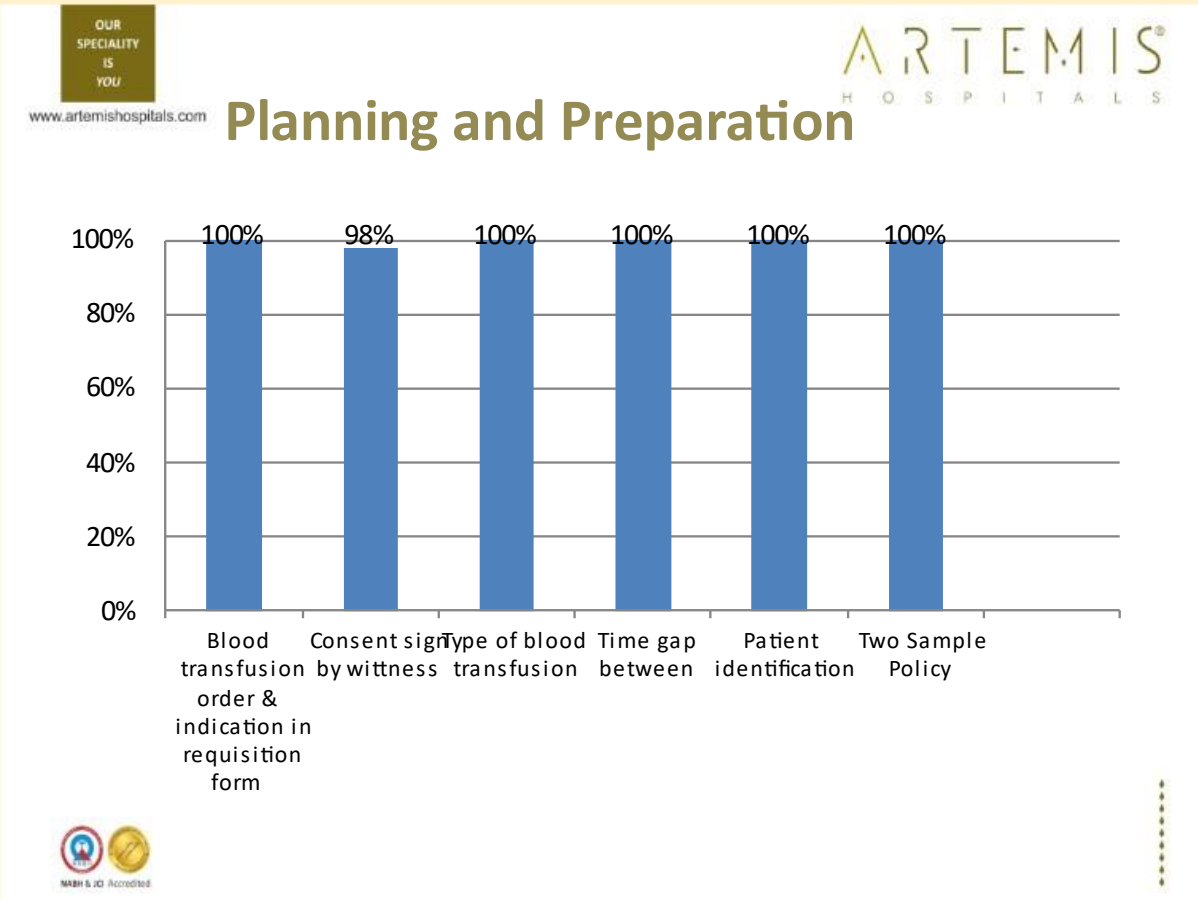
O Positive	O pos or O Negative	All groups	Any group is safe to transfuse
O Negative	O Negative	All groups	
A Positive	A positive, A Negative, O Positive, O Negative	A,AB	
A Negative	A Negative ,O Negative	A,AB	
B Positive	B Positive, B Negative, O positive, O Negative	B,AB	
B Negative	B Negative ,O Negative	B,AB	
AB Positive	All groups	Only AB	
AB Negative	AB Negative, B Negative ,A Negative ,O Negative	Only AB	

- For Rh Positive patients both Rh positive/Rh negative units can be matched.
- For Rh Negative patients only Rh negative units should be matched.
- Rh is not taken into consideration when transfusing platelets, plasma or cryoprecipitate.
- In case of short supply with the blood bank
  - Blood availability to be checked and the required units in neighbouring blood banks.
  - Same group donor from the voluntary donor list to be called for blood donation.
  - Mailers to all staff members of Artemis for availability of the same blood group donors.

Analysis



- LDPRC-Leukodepleted Packed Red Blood cells
- LDPRC is removal of white blood cells from the blood .
- RDPC- Random donor palatelet Concentrates
- RDP prepared from donated blood from donated blood with in 4hrs to 6 hrs.
- FFP – Fresh frozen Plasma
- FFP is a blood product made from the liquid portion of whole blood.

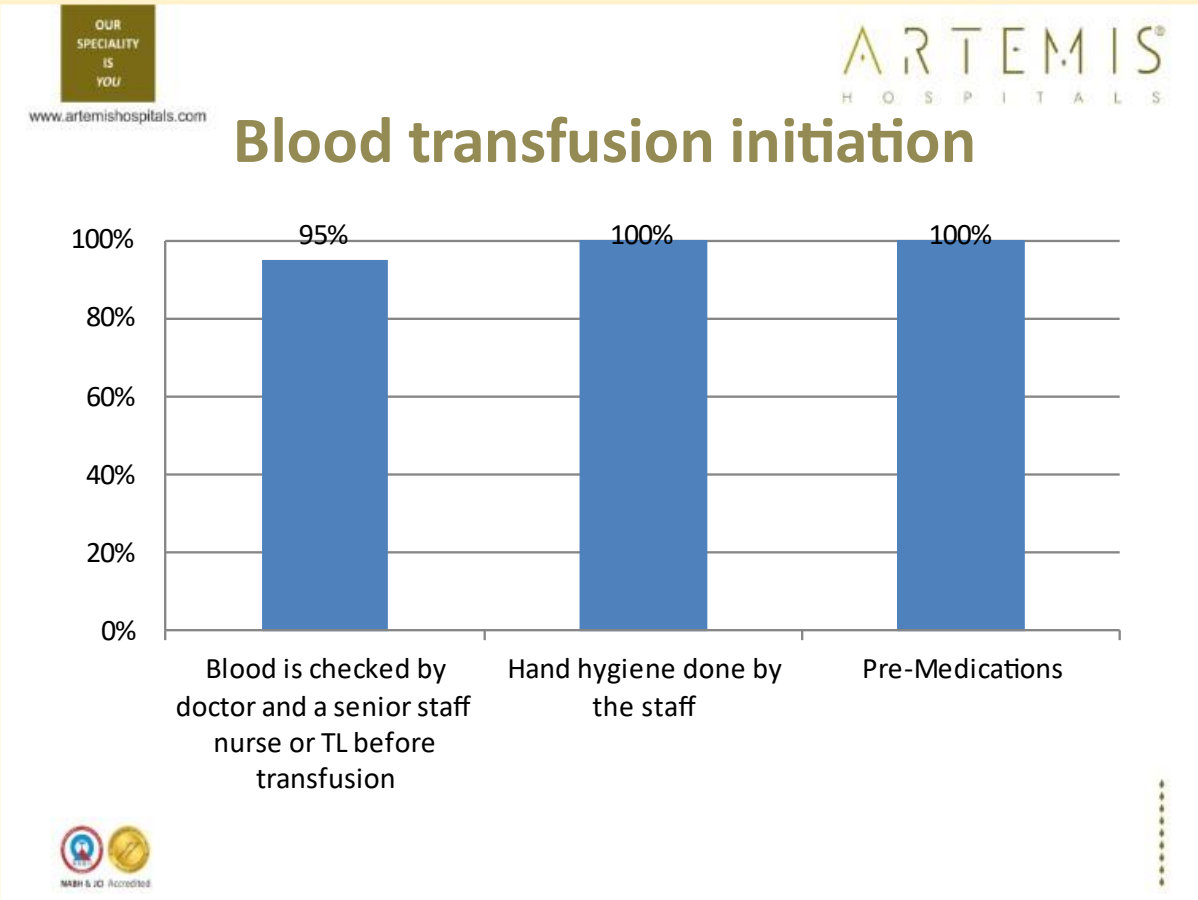


Planning and prepration analysis on the aspect of :

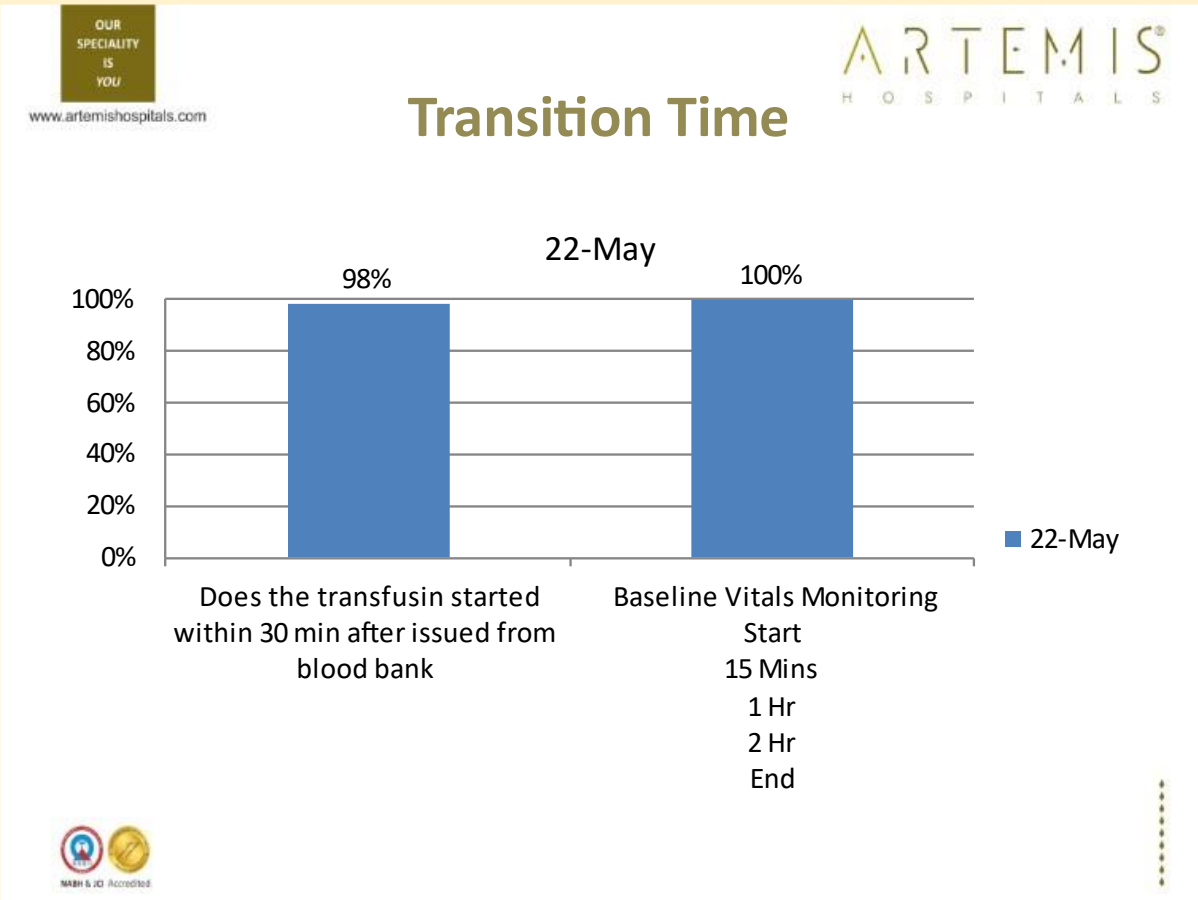
- Staff checked the blood transfusion order & indication mentioned in requisition form
- Type of blood transfusion (routine/urgent/emergic)
- Time gap between order time , requisition time, Indent time
- IV Cannula/ CVC checked for patency prior to blood
- Patient identification :

- Identification with blood bag
- Compatibility form
- Patient file

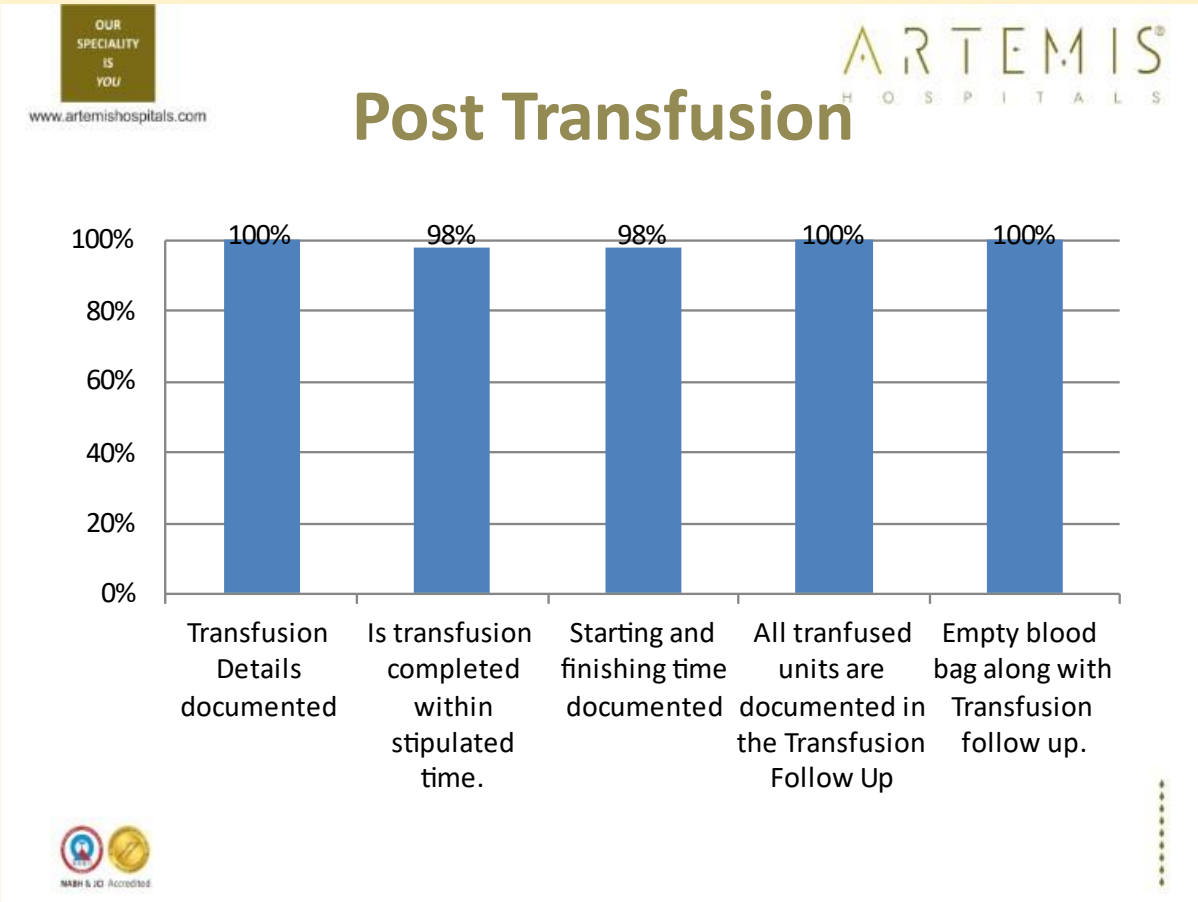
- Two Sample Policy (labelling / Bar coding of blood)



- Blood is checked by doctor and a senior staff nurse or TL before transfusion.
- Hand hygiene done by staff
- Pre medication



- Transfusion should be started within 30 minutes after issuing from blood bank.
- Baseline vitals Monitoring during transition.



- Transfusion detail documented.
- Transfusion completed within stimulated time.
- Starting and finishing time documented.
- All transfusion units are documented in the transfusion follow up.

Observation:

- Consent should be sign by witness it is the important procedure that should be completed before injecting of blood procedure started.
- Doctors and nurses should be signing on transfusion documentation.
- Transfusion started within 30min after issuing from blood bank.
- Started and finishing time documented little carefully.
- Transfusion completed within stimulated time is somehow to be managed within the given time .

Result:

- GDA should sign on the compatibility form at the time of receiving the blood.
- Starting and finishing time documented little carefully.

Limitation of study:

- The consent forms for most procedure is in English and not bilingual.
- Informed consent also includes patient and family education about the donation.

Conclusion:

Blood Transfusion is an important and common intervention in the critically ill patients . Despite a large body of evidence and established guidelines, there in considerable variation in clinical practices with respect to blood transfusion. Audit of transfusion practices has shown to improve the adherence to guidelines and also decrease the number of transfusions. Each institute should have defined periodic audits to analyze and improve their transfusion practices.

REFRENCES:

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Maryland. 20814.
Technical Manual, 12th Ed., 1996, American Association. Bethesda, Maryland 20814.
(1999) Chapter 25, Transfusion Therapy, Administration of Whole Blood and Blood Components
Lippincott On-Line
Manual
JCI 7th Edition

FEEDBACK FORM

(Organization Supervisor)

Name of the Student: Ms. Tanvi Malviya.

Summer Internship Institution: Artemis Hospitals

Area of Summer Internship: Quality Department

Attendance: 98%

Objectives met:

- Interpret hospital standards
- NABH 5th edition standards

Deliverables:

- Able to do audits of open and closed files
- Department specific audits etc.

Strengths:

- Critical thinking
- positive attitude and adaptability

Suggestions for Improvement:

To be more puntual

Signature of the Officer-in-Charge (Internship)

Date: 04/06/2022
Place: Gurugram

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Dated: June 6th 2022

TO WHOMSOEVER IT MAY CONCERN

This is to certify that Ms Tanvi Malviya has successfully completed her internship in the Department of Quality and Systems at Artemis Hospitals, Gurugram from April 7th, 2022 till June 6th, 2022.

During her training, she was found to be sincere and hardworking.

We wish her all the best for future.

For Artemis Medicare Services Ltd,

Flt. Lt. Saras Malik

(CPO- Chief People Officer)

Dr. Jeetendra Sharma

(Chief-Critical Care Unit II & Chief Medical Quality)