JOURNAL OF INTERNATIONAL SCIENTIFIC RESEARCH
Volume 4, Issue 2, April 2026 Online ISSN: 3030-3508
https://spaceknowladge.com

BLOOD TRANSFUSION

Baxronova Farangiz Bobomurod qizi
Faculty of Pharmacy, group 101
Samarkand State Medical University,
Samarkand Uzbekistan
Scientific supervisor: **Asatullayev Rustam Bakhtiyorovich**
Samarkand State Medical University
Assistant Professor of Languages

ARTICLE INFORMATION

ARTICLE HISTORY:
Received:03.04.2026
Revised: 04.04.2026
Accepted:05.04.2026

KEYWORDS:
Blood transfusion, donor, Rh factor, blood group, erythrocytes, plasma, safety.

ABSTRACT:

Blood transfusion is one of the treatment methods used in medicine. Through this process, donor blood is sent to the patient.Blood transfusions are important in saving lives in severe blood loss,anemia,surgical procedures and certain diseases.The process illuminates the types of blood transfusions and safety rules.

Introduction: blood transfusion has existed since the beginning and dates back to the XIX-XX centuries.In particular, the discovery of blood groups and the Rhesus factor have contributed significantly to the development of this field.Blood transfusion is the process of sending donor blood or its components to the patient, which helps to improve the vital process of the body.Blood transfusion is a medical treatment that requires high accuracy and care.This process consists of several stages, and strict safety measures are followed at each stage.

1.Donor selection and verification

The Donor must meet the following requirements: be healthy,not have infectious diseases,comply with certain age and weight requirements.

Donors undergo a special medical examination and are allowed to donate blood.

2.Blood donation (donation process)

Blood donation is carried out in special sterile conditions: disposable needles are used, 400-500 ml of blood is taken, the process takes 10-15 minutes.

The resulting blood is stored with special preservative substances.

3.Labaratory examinations

This stage is considered the most important part of security.

The following are checked: blood group (ABO),Rh factor, infections(viruses),blood quality.

Only blood that has undergone a full examination is used.

4.Separation of blood into components

In modern medicine, blood is divided into: erythrocyte mass,platelets,plasma.

This makes it possible to give the patient the necessary part.

5.Determination of blood compatibility (biological synapse)

Compatibility between donor and patient blood is checked: laboratory tests, biological test (giving a small amount of blood and checking)

If there is no compatibility, blood transfusion is not performed.

6.Preparing the patient

Before blood transfusion: the patient is examined,blood pressure and temperature are measured,the vein is prepared.

This stage ensures the safety of the treatment.

7.The blood transfusion process itself

The procedure is as follows:

1.Blood is connected to the system

2.It is injected into the patient's vein

3.It starts very slowly at first

4.It is observed for 10-15 minutes

5.If everything is fine, it will continue

A blood transfusion usually takes 1-2 hours.

8.Monitoring during the procedure

Medical personnel monitor the following: the patient's general condition, heart rate, breathing, and body temperature.

Any changes will be checked immediately.

9.Post-blood transfusion care

After the procedure: the patient remains on observation,blood analyzes are taken,complications are detected.

10.Possible complications

In some cases: allergic reactions, blood incompatibility, fever.

Therefore, strict precautions are taken.

Nowadays, in blood transfusion, not only whole blood is used, its components are also performed through erythrocyte mass,plasma and platelets.This increases the scope of treatment and reduces the risk of complications.

Research materials and methodology:

During a blood transfusion, it is important that the donor's blood matches the patient's blood.

Blood transfusions are carried out in these cases:when a large amount of blood is lost,in severe anemia,in surgical operations,in cases of burns and shock.

The process of hemotransfusion is carried out under special sterile conditions, under the supervision of a doctor.

Research results

Blood transfusions help to quickly improve the patient's condition.For example, when red blood cells are transfused, oxygen transport improves, and when plasma is transfused, blood volume is restored,

When platelets are transfused, the blood clotting process is normalized.

But incorrect blood can lead to the following complications:allergic reactions,hemolytic shock, infection.

Therefore, checks must also be carried out strictly.

Discussion:

The usefulness of blood transfusion depends on the quality and compatibility of the donor blood.The donor must be healthy and have passed important tests.

Donating blood is a manifestation of humanity and causes many people to prolong their lives.

Conclusion:

In place of the conclusion,we can say that blood transfusions are the main and priority part of developing medicine. Helps to bring patients back to life in very difficult situations.It is advisable to follow safety rules during blood transfusion, determine blood groups and Rh factor. The development of donation serves to improve public health.

References

1. QR Tokhtayeva, FX Azizova - Histology, Tashkent 2022
2. M.A.Abdurahmanov, E.A.Tursunov-Cytology,Tashkent 2022
3. O.T.Alyaviya et al. - Physiology
4. A.Ahmedov, Kh.Rasulov-Tashkent 2024
5. Gayton A.K.Hall Is A Dj.E-Fundamentals of Physiology