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Blood Banks and the Role of Nursing in the Process and Promotion of Blood Donation

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Abstract

In Spain, blood donation is regulated and is done altruistically and voluntarily. Blood banks play a crucial role in healthcare, supplying blood and blood components to hospitals and clinics for patients who need transfusions due to surgeries, accidents, serious illnesses, burns, or other medical disorders. Within the Blood banks, the Promotion

Units are responsible for informing and motivating the population to donate blood. Nursing professionals are included in the structure of these units. This article describes the main functions of blood banks and the role of nursing professionals in the process and promotion of blood donation.

Keywords: Blood Banks, Blood Donation, Nursing Roles

Introduction

In Spain, blood donation is regulated and is done voluntarily and altruistically, which turns the blood donor into a user who goes to a donation point for personal motivation. It is a social need with high demand for which a large volume of donors is required. A blood bank, also known as a blood donation center or blood transfusion service, is a medical facility that is responsible for collecting, processing, storing, and distributing safe and compatible human blood and blood products for use in blood transfusions and other medical procedures. Blood banks play a crucial role in healthcare, supplying blood and blood components to hospitals and clinics for patients who need transfusions due to surgeries, accidents, serious illnesses, burns, or other medical disorders that affect blood production or function. They also promote voluntary blood donation and awareness about the importance of donating blood to save lives. It is important to note that blood banks follow strict safety and quality protocols, with criteria of sufficiency, equity, and efficiency, to guarantee the safety of both donors and recipients of blood and its components ^[1, 2].

The World Health Organization defines blood transfusion as the transfer of blood or blood components from one subject (donor) to another (recipient). In this process, the participation of the nursing professional is essential since it requires a deep knowledge of the scientific principles and physiological bases, as well as meticulous management of patient care and the correct application of a protocol to avoid possible complications in order to provide the necessary safety to the patient and guaranteeing the quality of service. On the other hand, the role of nursing professionals in the blood donation process is fundamental ^[3-7].

This article describes the main functions of blood banks and the role of nursing professionals in the process and promotion of blood donation.

The Process and Functions of Blood Banks

The process begins with donating blood. Healthy volunteers donate blood at the blood bank or at a mobile donation unit. Blood can be donated for general use or specific, such as for a particular patient. Before donating, potential donors undergo an interview and health questionnaire to determine their eligibility. Medical history, recent travel, and other risk factors are reviewed. Blood pressure, pulse, and hemoglobin levels are also checked. If the donor is eligible, the blood collection

proceeds. Typically, one unit of whole blood is drawn, which is approximately 450 ml. The process is quick and generally lasts 10 to 15 minutes. Donated blood undergoes a centrifugation process to separate its components, such as red blood cells, plasma, and platelets. Screening for infectious diseases, such as HIV, hepatitis B and C, and syphilis, is also performed to ensure the blood is safe. Blood and its components are stored under controlled conditions of temperature and humidity. Red blood cells can be preserved for a limited period, while plasma and platelets are stored at much lower temperatures. Safe blood products are distributed to hospitals and clinics according to their needs. Each unit of blood is carefully labeled to keep a record of its origin and destination, ensuring traceability. Blood products are used in transfusions for patients who need them due to surgery, trauma, chronic illnesses, cancer treatments, and other medical procedures. Medical staff check blood compatibility before giving a transfusion. After donation, the donor receives care and refreshments to ensure their well-being and recovery before returning to normal activities. Blood banks maintain accurate records of all donations and transfusions. They also keep track of donors and can contact them in case additional blood is needed or further testing is required [1].

The main functions of blood banks are described below [1, 2, 6, 8, 9].

- **Donation:** Blood banks organize regular blood donation campaigns and coordinate the functions of receiving and selecting voluntary donors and the extraction of whole blood or some of its components.
- **Testing and typing:** After donation, the blood is subjected to various tests to detect infectious diseases such as HIV, hepatitis, and syphilis. It is also typed to determine the blood group (A, B, AB, O) and the Rh factor.
- **Processing:** Donated blood is processed to separate different blood components, such as red blood cells, plasma, and platelets. These components can be used to treat different medical conditions.
- **Storage:** Blood components are stored under special conditions to maintain their viability and safety until a patient needs them.
- **Distribution:** When a patient needs a transfusion of blood or a blood component, the appropriate blood type is removed from the blood bank and distributed to the hospital or clinic where the patient is located.
- **Investigation:** Blood banks may also be involved in research activities to improve transfusion techniques, study blood-related diseases, and develop more effective treatments.

The Role of Nursing in the Process and Promotion of Blood Donation

The greater the information and knowledge of the population about blood needs and the donation process, the greater the motivation to be a blood donor [10]. Within the Blood banks, the Promotion Units are responsible for informing and motivating the population to donate blood. The objective of these units is the promotion of blood donation and the recruitment and loyalty of donors. The structure of these units includes human resources from different professional categories, including nursing professionals. Nursing therefore plays a fundamental role in the process and promotion of blood donation, which is the

voluntary and altruistic act of donating blood to save lives [11].

The role of nursing professionals in the process and promotion of blood donation is described below [3, 5, 11-17].

- **Education and awareness:** They provide information to patients and their families about the importance of blood donation and how it can save lives. They are involved in organizing awareness-raising campaigns in local communities, schools, and workplaces to educate the public about the continued need for blood and the benefits of donation.
- **Eligibility evaluation:** Working with medical professionals, they screen potential donors to determine their eligibility to donate blood, ensuring they are able to do so safely.
- **Facilitate donation:** They organize and facilitate blood drives in hospitals and health centers, providing a safe and comfortable environment for donors, and providing emotional support to those who may feel nervous or anxious during the donation process.
- **Blood collection:** They carry out blood collection safely and efficiently. This involves inserting needles, drawing blood, and monitoring donors during the process to ensure their well-being.
- **Donor care:** After donation, they monitor donors to make sure they feel well and recovered before they leave the donation center, and in case of adverse reactions they provide immediate and appropriate care. The most common adverse reactions are dizziness, pain, fatigue, and vasovagal syncope. Vasovagal syncope is mild when it lasts seconds and quickly recovers, moderate when the donor loses consciousness or has a recovery period of more than 15 minutes, and severe if there is cyanosis, incontinence, seizures, or tetany, in which case it should be referred to a hospital center.
- **Management and coordination:** They work closely with blood banks to ensure an adequate supply of blood and blood products for patients in need. They record donor information and ensure proper follow-up to encourage repeat donations and ensure a consistent supply.
- **Promotion of recurring donations:** They educate the population about the importance of regular donation, promoting blood donation as a healthy and supportive habit, and reminding them when it is time to donate again.

Conclusion

Blood donation in Spain is regulated and is done voluntarily and altruistically. Blood banks play a vital role in healthcare by ensuring that there is always enough safe, compatible blood available for patients who need it. Blood donors are essential to maintaining this supply and saving lives. Nursing professionals play an integral role in the donation process, ensuring safety and effectiveness, and in promoting donation by educating, facilitating, caring for, and coordinating activities related to blood donation, significantly contributing to saving lives and improving the health of people who need it.

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