



Review

# A successful experience of the Iranian blood transfusion organization in improving accessibility and affordability of plasma derived medicine



Azita Chegini<sup>a,\*</sup>, Seyed Ardeshtir Torab<sup>b</sup>, Ali Akbar Pourfatollah<sup>c</sup>

<sup>a</sup> Department of Immunohematology, Blood transfusion research Center, High Institute for Research and Education in Transfusion Medicine, P.O. Box: 14665-1157, Tehran, Iran

<sup>b</sup> IBTO Iranian Blood Transfusion Organization plasma Committee, IBTO, Box: 14665-1157, Tehran, Iran

<sup>c</sup> General Director of Iranian Blood Transfusion Organisation, Department of Immunology, Faculty of Medical Science, Tarbiat Modares University, Tehran, Iran

ARTICLE INFO

**Keywords:**  
Plasma  
Plasma derived medicine

ABSTRACT

Plasma is the liquid part of blood. It is estimated 21.6 million liters of plasma collect from Whole blood annually. From these plasma, 4.2 million liters transfuse, 8.1 million liters fractionate, 9.3 million liters waste. Nowadays, blood products and PDM (plasma derived medicine) consider as essential medicine in modern health care and transfusion medicine. Iranian blood transfusion organization as a non-profit organization was established in 1974 in order to centralize all blood transfusion activities from donor recruitment to distribution of blood components to hospitals. Iran is the only country in EMR region with the rate of 20–29.9 blood donations per 1000 population and reached 100% voluntary non-remunerated blood donation in 2007. RBCs and platelets demand are much more than FFPs so the IBTO was faced the surplus plasma that could cause surplus plasma wastage. Simultaneously, hospitals need more plasma derived medicine especially albumin, IVIG, factor VIII, factor IX. IBTO was faced the challenges such as Fractionators selection, Plasma volume shipment, Contract duration, Product profile, Multiple External audits, Cold chain maintenance, Transporting plasma across international borders, NAT test. To overcome plasma wastage and storage of PDM. IBTO involved toll manufacturing in 2005 and not only prevents plasma wastage but also save MOH (ministry of health) budget.

© 2016 Published by Elsevier Ltd.

Contents

1. Introduction.....	12
2. Iranian blood transfusion organization.....	14
3. Plasma derived medicine.....	14
5. Future plan.....	16
6. Conclusion.....	16
References.....	16

1. Introduction

Plasma is the liquid part of blood. After processing of 500 ml (milliliter) of Whole blood, estimated 300 ml plasma separated to

another bag. This plasma introduced as Fresh Frozen Plasma (FFP). If this plasma has sent to manufactures for medicines, is named recovered plasma. If only the plasma is separated and other components are returned, is called source plasma. Plasma has more than 1000 proteins and they provide over 30 commercial concentrated protein. These medicines are expensive and they have shortage and low quantities. WHO (World Health Organization) has announced them as essential medicine that are produced from concentrated

\* Corresponding author.  
E-mail addresses: [a.chegini@ibto.ir](mailto:a.chegini@ibto.ir), [azita\\_chegini@yahoo.com](mailto:azita_chegini@yahoo.com) (A. Chegini), [drtorab@hotmail.com](mailto:drtorab@hotmail.com) (S.A. Torab), [pourfa@yahoo.com](mailto:pourfa@yahoo.com), [a.pourfatollah@ibto.ir](mailto:a.pourfatollah@ibto.ir) (A.A. Pourfatollah).

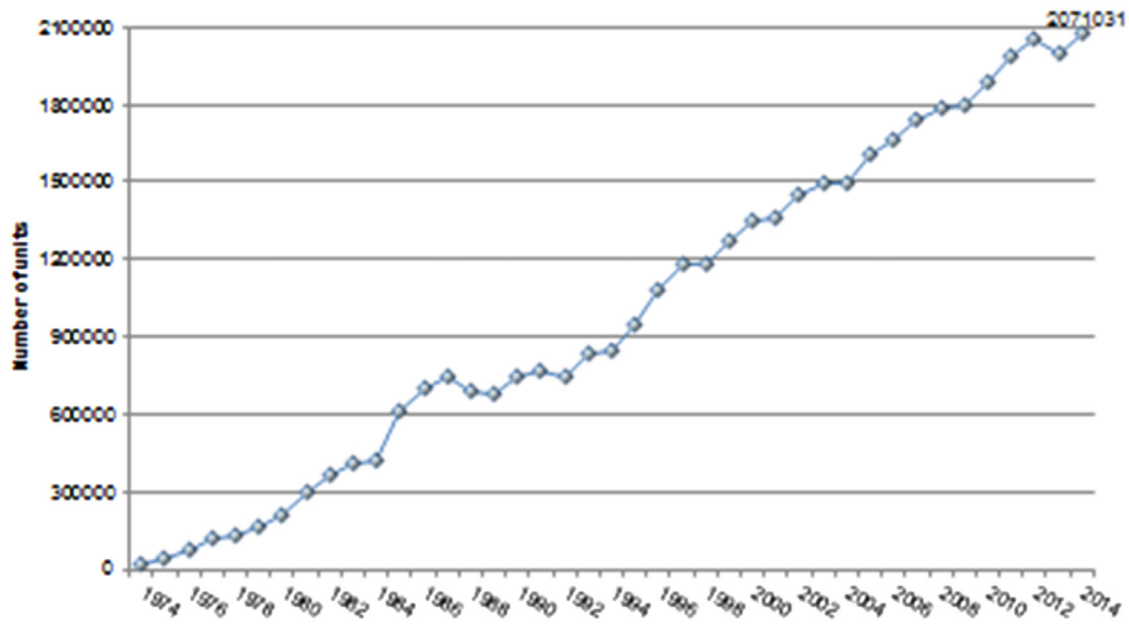


Fig. 1. Trend of blood donation in Iran from 1974 to 2014.

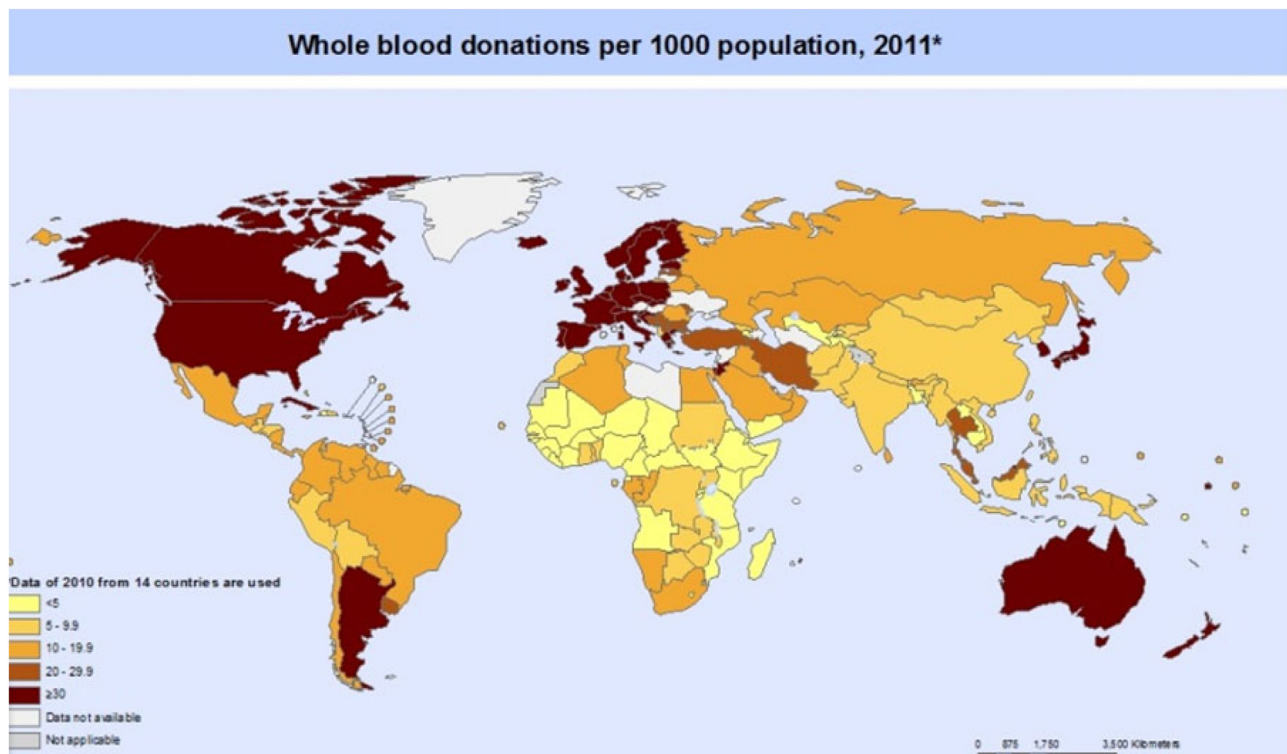


Fig. 2. Iran is the only country in EMR region with the rate of 20–29.9 blood donations per 1000 population.

proteins of plasma. They include clotting factors, Immune globulins, Gammaglobulins, hyper immune serums and so forth [1].

It is estimated 21.6 million liters of plasma collect from Whole blood annually. 4.2 million liters out of this volume transfuse, 8.1 million liters fractionate, 9.3 million liters waste. Many patients in the low and middle income countries with clotting disorders, immune deficiencies and autoimmune diseases do not access to these medicines. On the other hand, demand of them is increased from last decade [2]. Plasma is a rich source of human proteins and can be considered as raw material for producing medicines.

Such medicines that are produced from human plasma called plasma derived medicine (PDM). Now, blood products and PDM are essential in modern health care and transfusion medicine. Plasma fractions conduct medicines that can save lives of bleeding and immunologic disorder patients. The most common PDM around the world are clotting factors such as Factors VIII, FIX, WVF, fibrinogen, Prothrombin complex Concentrate (PCC), fibrin sealants and albumin, immunoglobulins.

WHO (World Health Organization) includes PDM as essential medicine due to their critical role in clinical use. Patients with Pri-

Download English Version:

<https://daneshyari.com/en/article/5664566>

Download Persian Version:

<https://daneshyari.com/article/5664566>

[Daneshyari.com](https://daneshyari.com)