

Availability of blood components and plasma derived medicines in Iran

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Received 12 March 2007; accepted 24 March 2007

Abstract

Iran is a country with advanced health care system. In 1974 government of Iran established a centralized transfusion system. Since then donations of blood may not be remunerated and therapy with blood and its components is free of charge for all Iranian patients in need of the treatment. Most of donors in Iran are educated middle age men. In 2005 Iranian donated more than 1.6 millions units of blood. Although Iran population has doubled in past three decades blood donation has increased several folds. Donations are meticulously screened through interviewing of donors and lab testing of the donations using serological methods. In contrary to blood and blood components, Iran is heavily depends on importation of plasma derived medicines. Irrational use of blood components and low surveillance on use of plasma derived medicines, which are highly subsidized by the government, is a major challenge in transfusion medicines in Iran.

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Keywords: Blood donation; Blood components; Plasma derived medicines; Iran

1. Introduction

Iran, a country with a population over 70 millions, is one of the most populated countries of the Middle East. In past three decades, the government of Iran has invested substantially on primary and secondary cares in Iran and the country now has a substantially advanced health system infrastructure. Iran has a primary healthcare network covering the entire population of the country. Rural health houses throughout the country are staffed by

trained personnel and supported by a system of continuing education. In Iran responsibility for health and medical education are merged throughout the health system. In a unique system, Iran Ministry of Health and Medical Education (MOH) is responsible for both health and medical education in the country. Each medical science university in Iran has a vice chancellor responsible for health care [1].

Today blood, blood components and plasma derived medicines are a vital part of the modern medicine and health care systems. Millions of lives each year saved or significantly improved by rational use of these products and it is not currently foreseeable that modern medicine will be able to

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survive without sustained and reliable access to the safe blood and blood/plasma derived products. Although the scarcity of this raw material of human origin brings about legal and ethical consideration, insufficient quantities of these products to treat patients compromise the obvious right of patients to health care.

2. Iranian blood transfusion organization

In Iran blood transfusion is an integral part of the national health system. Blood donation is voluntary and unpaid and blood and its components may not be a source of profit. The costs of collection, fractionating, preserving and distribution of blood and its components is paid by the government. Blood components in Iran are absolutely free of charge and therapy with blood and its components is free of charge for all Iranian patients in need of the treatment.

Although blood transfusion in Iran has a long history, new era of blood transfusion started in 1940s. According to a local newspaper first blood donation in a blood bank was recorded in 1945. Blood transfusion services started in a non centralized and inappropriately supervised manner. However, following the establishment of blood centers both in Iranian Army in early 1950s and Red Lion and Sun Organization (replaced in 1979 with Red Crescent following Islamic revolution in Iran) the country started to experience establishment, growth and coordination of blood transfusion activities in its health sector. Until the early 1970s Iran had no organized blood service and the requirements of hospitals were supplied by commercial “agents” who relied mostly upon paid “professional” blood donors [2,3].

The basic principles of blood safety are enough safe blood donors, a responsible blood transfusion service which can ensure appropriate and safe processing and testing, and appropriate use of blood. Iran has adopted criteria set by WHO for a national blood organization including well organized nationally coordinated blood transfusion services with quality systems in all areas, the collection of blood only from voluntary non-remunerated blood donors from low risk populations, the quality assured testing of all donated blood, the safe and appropriate use of blood and blood products, and global collaboration for blood safety as principles for Iranian Blood Transfusion Organization (IBTO) [4,5].

In 1974 based on a parliamentary law, IBTO was established in order to centralize all blood transfusion activities from donor recruitment to production of blood components and delivery of blood and blood products under one umbrella. The law banned any other organization, public and private, to perform any activity in blood transfusion section. The establishment of IBTO was a significant progress toward emergence of a developed and scientifically based blood transfusion system in Iran.

IBTO is a public and non-profit organization that relies fully on the government of Iran for its financial budget and therefore delivers all of its produced blood components free of charge both to the public and private hospitals. Although it is an independent organization, Minister of Health chairs IBTO high council. Among other responsibilities IBTO high council is responsible for appointment of IBTO general manager. According to its constitution the main scope and responsibilities of IBTO are as following:

- To define standards for blood collection, storage and delivery of blood and blood components.
- To recruit voluntary donors through educational and non commercial promotional activities.
- To develop blood supply network and blood collection centers throughout the country.
- To conduct necessary tests on donors and donated bloods to ensure blood safety.
- To prepare blood components and deliver blood and blood components to authorized health centers based on their requests.
- To establish educational program for health professionals involve in administration of blood and blood components.
- To establish reference laboratories to diagnose blood borne disease and blood related disorders.

According to the law, IBTO has a monopoly status and currently it is the sole organization receiving donated blood, preparing blood components e.g. red cells, platelets and fresh frozen plasma and distributing them to the hospitals in Iran. However, it has no obliged responsibility for production, importation and distribution of plasma derived medicines.

IBTO has focused on self sufficiently of the country on blood and blood components and therefore has spent enormous efforts on increasing blood collection form volunteer donors. Iran now has one of the most comprehensive blood transfusion systems in the Middle East region. In 2005 Iranian donated more than 1.6 millions units of blood (Fig. 1).

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