



WEEKLY EPIDEMIOLOGICAL REPORT

A publication of the Epidemiology Unit
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Blood Transfusion

June 14th is declared as the world blood donor day by the World Health Organization (WHO). This year, the global campaign focuses on young donors, with the slogan "New blood for the world". It is hoped that a new generation of idealistic and motivated voluntary unpaid blood donors will form a pool that provides the safest blood possible for use wherever and whenever it is needed to save life. In events and activities around the world, youth will be the focus of the day.

History of Blood Transfusion:

According to the history in 1818, Dr. James Blundell, a British obstetrician, performed the first successful blood transfusion of human blood, for the treatment of postpartum hemorrhage. Following years, many deaths were registered while transfusing blood until 1901 when the Austrian Karl Landsteiner discovered human blood grouping. This discovery made the process of blood transfusions safer.

At the beginning blood transfusion had to be made directly from donor to recipient to overcome the problem of blood coagulation. In 1910s it was discovered that by adding anticoagulant and refrigerating the blood, it was possible to store it for some days. The first non-direct transfusion was performed on March 27, 1914 by the Belgian physician Albert Hustin, who used sodium citrate as an anticoagulant. The first blood transfusion using blood that had been stored and cooled was performed on January 01, 1916. These events helped Oswald Hope Robertson, a medical researcher and U.S. Army officer to conceptualize the blood bank concept. He is generally credited with establishing the first blood bank while serving in France during World War I. First organized system of blood banks was set up by former Soviet Union in 1930s. This news of the Soviet experience led its rival United States of America to set up similar facilities. In 1937 Bernard Fantus pioneer in establishing blood banks in America coined the word "blood bank".

Blood Bank in Sri Lanka:

National Blood Transfusion Service (NBTS) is a decentralized unit which comes under the Ministry of Health, Sri Lanka. NBTS is the sole supplier of blood and blood products to all state hospitals and some of the private hospitals which are registered under the Ministry of Health for the

supply of blood and blood products, having its headquarters at the National Blood Centre (NBC), NBTS has 74 blood banks island wide. The categorization of blood banks is as follows,

1. National Blood Centre - the headquarters
2. Cluster Centers
3. Peripheral Blood Banks

Blood transfusion was first performed in Sri Lanka in late 1950. It only became widely known to the public in 1959 with the news report announcing the assassination of late Prime Minister Mr. S.W.R.D. Bandaranayake. An appeal was made to the public to donate blood.

Initially there was only one blood bank in Sri Lanka and it was confined to a room close to the surgical unit of the National Hospital of Sri Lanka (NHSL).

In Sri Lanka about three hundred thousand people donate blood within a year.

Safe and appropriate use of blood:

Blood transfusion is an essential part of modern health care. Used correctly, it can save life and improve health. However, as with any therapeutic intervention, it may result in acute or delayed complications and carries the risk of transmission of infectious agents, such as HIV, hepatitis viruses, and syphilis.

The inappropriate use of blood and blood products, coupled with the transfusion of unscreened or improperly screened units, particularly in countries with poor blood programmes, increases the risk of transfusion-transmissible infections to recipients. It also widens the gaps between supply and demand and contributes to shortages of blood and blood products for patient requiring transfusion. Thus, it is necessary to reduce unnecessary transfusions. This can be achieved through the appropriate clinical use of blood, avoiding the needs for transfusion and use of alternatives to transfusion. The transfusion is deemed appropriate when it is used to treat conditions leading to significant morbidity and mortality that cannot be prevented or managed effectively by other means. The commitment of the health authorities, health care providers and clinicians are important in prevention, early diagnosis and treatment of diseases/conditions that could lead to the need for blood transfusion.

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Key elements of effective clinical use of blood:

Consistently effective clinical transfusion practices cannot be achieved unless the following elements are in place:

- Well organized blood programme, coordinated at national level to guarantee safe, adequate and timely supply
- A national blood policy that addresses the clinical use of blood, with appropriate supportive legal framework
- A national committee on the clinical use of blood and hospital transfusion committees at local level to implement, regularly review and update the national policy and guidelines
- National guidelines on the clinical use of blood to aid prescribers of blood in their clinical decisions about transfusion, based on systematic reviews of evidence on clinical effectiveness. Development of these guidelines requires involvement of blood prescribers from different clinical disciplines working together with the blood transfusion services. These guidelines should suit the local situation
- The availability of simple alternatives for transfusion (crystalloids and colloids) for the correction of hypovolaemia, and pharmaceuticals and medical devices to reduce blood loss
- The education and training of clinicians, nurses and blood transfusion service staff involved in the transfusion process

Monitoring and evaluation of implementation of the national policy and guidelines and the use of monitoring data in quality improvement and education programme to assist clinicians to improve their practice.

Voluntary blood donation:

Safe blood donors are the cornerstone of a safe and adequate supply of blood and blood products. The safest blood donors are voluntary, non-remunerated blood donors from low risk populations. Despite this, family/replacement and paid donors, who are associated with a significantly higher prevalence of transfusion-transmissible infections (TTIs) including HIV, hepatitis B, hepatitis C, syphilis and Chagas disease, still provide more than 50% of the blood collected in developing countries. WHO advocates and recommends to its Member States to develop national blood transfusion services based on voluntary non-remunerated regular blood donation. **The key to recruiting and retaining safe blood donors is good epidemiological data** on the prevalence (and incidence, where possible) of infectious markers in the general population to identify low-risk donor populations coupled with an effective donor education, motivation and recruitment strategy to recruit new voluntary non-remunerated blood donors from these populations. A pleasant experience during blood donation, good donor care and effective communication between blood centre staff and blood donors are all important factors for the retention of safe blood donors.

WHO has developed a set of simple guidelines designed to assist those responsible for blood donor recruitment in resource poor settings to develop and implement a programme to improve communication with blood donors. These guidelines provide approaches for setting up a communication programme organizing, collecting information, and developing plans; as well as providing ideas that individual centres might consider for recruiting, educating and retaining safe donors.

Elements and activities in promoting voluntary non-remunerated blood donation include.

- National blood donor programme for the education, recruitment and retention of low-risk blood donors, including community-based voluntary blood donor organizations and youth programmes
- Appointment of an officer responsible for the national blood donor programme to include donor education, motivation, recruitment and retention
- Training of donor recruitment and donor care staff in donor education, motivation, recruitment, selection and retention
- Development of partnerships with non-governmental organizations, such

as national Red Cross and Red Crescent societies, voluntary blood donor organizations, national service organizations and the media

- Identification of donor populations at low risk for transfusion-transmissible infections and development of strategies to promote positive attitudes towards voluntary blood donation
- Development of donor education and recruitment materials
- Educational and media campaigns in workplaces, communities and educational institutions
- Establishment and maintenance of a database/register of donor records
- Guidelines and protocols for donor selection and deferral, donor confidentiality and donor care
- Guidelines on the management of donor sessions and blood collection
- Monitoring of transfusion-transmissible infections in donor population
- Training of staff in pre- and post-donation counselling
- Donor notification and referral for counselling

Monitoring and evaluation of the blood donor programme

Universal access to safe blood and blood products for transfusion:

Millions of lives are saved each year through blood transfusions. In many countries, however, people still die due to an inadequate supply of blood and blood products. This has a particular impact on women (as a consequence of pregnancy-related complications), children (malnutrition, malaria and severe life-threatening anaemia), trauma victims and, especially, the poor and disadvantaged.

The emergence of HIV in the 1980s highlighted the importance of ensuring safety, as well as adequacy, of national blood supplies. In many countries, even where blood is available, many recipients remain at risk of transfusion-transmissible infections as a result of poor blood donor recruitment and selection practices and the use of untested units of blood.

Every country has a common need to ensure:

- Availability of adequate supplies of blood and blood products and their accessibility to all patients requiring transfusion;
- Safety of blood and blood products;
- Safe and appropriate clinical use of blood and blood products.

The WHO Blood Transfusion Safety (BTS) team supports the establishment of sustainable national blood programmes that can ensure the provision of safe, high quality blood and blood products that are accessible to all patients requiring transfusion and their safe and appropriate use. In support of this mission, the WHO BTS team recommends the following integrated strategy to national health authorities:

- Establishment of a well-organized, nationally coordinated blood transfusion service that can provide adequate and timely supplies of safe blood for all patients in need
- Collection of blood only from voluntary unpaid blood donors at low risk of acquiring transfusion-transmissible infections, and stringent blood donor selection criteria
- Testing of all donated blood for transfusion-transmissible infections, blood groups and compatibility
- Production of blood components to maximize the use of donated blood and enable the provision of therapeutic support for patients with special transfusion requirements
- Appropriate clinical use of blood and the use of alternatives, where possible, to minimize unnecessary transfusions.
- Safe transfusion practices at the bedside
- Comprehensive quality system covering the entire transfusion process, from donor recruitment to the follow-up of recipients of transfusion.

Source: WHO, National Blood Bank web site

Table 1: Vaccine-preventable Diseases & AFP

05th - 11th June 2010(23th Week)

Disease	No. of Cases by Province									Number of cases during current week in 2010	Number of cases during same week in 2009	Total number of cases to date in 2010	Total number of cases to date in 2009	Difference between the number of cases to date in 2010 & 2009
	W	C	S	N	E	NW	NC	U	Sab					
Acute Flaccid Paralysis	00	00	00	00	00	02	00	00	00	02	02	40	36	+ 11.1 %
Diphtheria	00	00	00	00	00	00	00	00	00	00	00	00	00	-
Measles	00	00	01	00	00	00	00	00	00	01	02	43	58	- 25.9 %
Tetanus	00	00	00	00	00	00	00	01	00	01	00	14	17	- 17.6 %
Whooping Cough	00	00	00	00	00	00	00	00	00	00	03	10	18	- 44.4 %
Tuberculosis	24	13	04	06	19	17	27	00	29	139	169	4091	3911	+ 04.6 %

Table 2: Newly Introduced Notifiable Disease

05th - 11th June 2010(23th Week)

Disease	No. of Cases by Province									Number of cases during current week in 2010	Number of cases during same week in 2009	Total number of cases to date in 2010	Total number of cases to date in 2009	Difference between the number of cases to date in 2010 & 2009
	W	C	S	N	E	NW	NC	U	Sab					
Chickenpox	05	08	07	01	01	03	05	03	03	36	253	1739	9040	- 80.8 %
Meningitis	11 CB=5 KL=6	03 NE=1 KN=2	07 GL=3 MT=4	00	06 AM=3 KM=3	04 KN=2 PU=2	08 PO=2 AP=6	03 BD=1 MO=2	05 KG=1 RP=4	47	18	806	462	+ 74.4 %
Mumps	02	01	06	01	00	04	02	01	05	22	35	452	859	- 47.3 %
Leishmaniasis	00	00	00	00	00	00	00	00	00	00	02	153	419	- 63.4 %

Key to Table 1 & 2

Provinces: W: Western, C: Central, S: Southern, N: North, E: East, NC: North Central, NW: North Western, U: Uva, Sab: Sabaragamuwa.
 DDPHS Divisions: CB: Colombo, GM: Gampaha, KL: Kalutara, KD: Kandy, ML: Matale, NE: Nuwara Eliya, GL: Galle, HB: Hambantota, MT: Matara, JF: Jaffna, KN: Killinochchi, MN: Mannar, VA: Vavuniya, MU: Mullaitivu, BT: Batticaloa, AM: Ampara, TR: Trincomalee, KM: Kalmunai, KR: Kurunegala, PU: Puttalam, AP: Anuradhapura, PO: Polonnaruwa, BD: Badulla, MO: Moneragala, RP: Ratnapura, KG: Kegalle.

Data Sources:

Weekly Return of Communicable Diseases: Diphtheria, Measles, Tetanus, Whooping Cough, Chickenpox, Meningitis, Mumps.

Special Surveillance: Acute Flaccid Paralysis.

Leishmaniasis is notifiable only after the General Circular No: 02/102/2008 issued on 23 September 2008.

Dengue Prevention and Control Health Messages

To prevent dengue, remove mosquito breeding place in and around your home, workplace or school once a week

Table 4: Selected notifiable diseases reported by Medical Officers of Health
05th - 11th June 2010(23th Week)

DPDHS Division	Dengue Fever / DHF*		Dysentery		Encephalitis		Enteric Fever		Food Poisoning		Leptospirosis		Typhus Fever		Viral Hepatitis		Human Rabies		Returns Received
	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	
Colombo	49	2112	10	111	0	7	0	33	0	24	16	305	1	5	0	30	0	1	54
Gampaha	33	2046	3	37	0	12	1	25	0	9	1	194	0	5	0	49	0	3	20
Kalutara	45	774	5	89	1	9	0	11	0	65	5	176	0	1	1	17	0	1	67
Kandy	31	720	17	167	0	1	0	14	0	2	3	47	3	79	0	29	0	1	91
Matale	7	383	0	207	0	2	2	16	1	67	6	61	0	4	2	28	0	0	83
Nuwara	0	77	3	170	0	0	6	67	0	82	0	15	1	38	0	25	0	0	54
Galle	25	461	4	118	0	4	0	0	2	11	2	40	0	3	1	7	0	3	84
Hambant	23	366	2	35	0	3	0	1	0	7	1	37	2	50	0	4	0	0	64
Matara	17	204	15	89	0	3	0	2	0	39	4	182	2	75	0	10	0	0	76
Jaffna	16	2133	5	100	0	2	2	338	0	5	0	1	0	102	0	37	0	2	50
Kili-	1	0	1	2	0	0	0	1	0	0	0	0	0	0	0	0	0	0	25
Mannar	3	98	1	21	0	0	3	32	1	10	0	0	0	0	0	12	0	0	100
Vavuniya	1	494	0	19	0	2	0	26	0	8	0	2	0	1	0	10	0	1	50
Mullaitivu	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Batticaloa	17	1048	1	66	0	2	0	15	3	28	0	9	0	1	0	3	0	1	71
Ampara	0	76	0	39	0	1	0	6	0	6	1	27	0	0	0	9	0	0	29
Trincomal	3	751	0	75	0	7	0	3	0	8	0	9	0	9	0	13	0	1	50
Kurunega	21	649	0	129	1	12	1	15	0	8	6	195	2	27	1	59	0	2	55
Puttalam	29	632	2	44	0	4	1	40	0	124	0	57	0	0	1	15	0	1	89
Anuradha	10	764	2	34	0	2	1	5	0	32	3	47	1	21	0	26	0	3	79
Polonnar	20	244	6	45	0	1	0	2	0	7	1	47	0	1	0	18	0	0	86
Badulla	10	338	1	88	0	1	3	56	0	13	1	38	0	45	6	55	0	0	60
Monaraga	27	300	6	104	0	1	1	23	0	4	0	26	0	29	3	56	0	1	64
Ratnapur	96	1166	24	229	0	4	1	10	0	22	10	209	2	33	2	56	0	2	61
Kegalle	32	457	11	68	1	5	0	25	0	19	4	116	0	7	2	44	0	0	64
Kalmunai	0	469	3	118	0	1	0	5	0	0	0	0	0	0	0	8	0	1	38
SRI LANKA	516	16764	122	2199	03	86	22	771	07	600	64	1840	14	536	19	620	00	24	63

Source: Weekly Returns of Communicable Diseases WRCD).

*Dengue Fever / DHF refers to Dengue Fever / Dengue Haemorrhagic Fever.

**Timely refers to returns received on or before 11th June, 2010 Total number of reporting units =311. Number of reporting units data provided for the current week: 202

A = Cases reported during the current week. B = Cumulative cases for the year.

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