

SEA-HLM-368
Distribution: General

Production of Quality Blood Components and Commencement of External Quality Assessment Scheme

*Report of an Intercountry Workshop
Bangkok, Thailand, 9–20 December 2002*

WHO Project No: ICP BCT 001



World Health Organization
Regional Office for South-East Asia
New Delhi
April 2003

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1. INTRODUCTION

Blood transfusion is an essential part of modern health care. Used appropriately, transfusion can save life and improve health. However, it always carries potential risks for the recipient and should be prescribed only for conditions with significant potential for morbidity and mortality that cannot be prevented or managed effectively by other means such as use of haematinics in anaemias and that of crystalloids and colloids as volume expanders.

Even in conditions warranting use of blood, it can be optimally utilized by the use of specifically required components instead of whole blood. Data from the countries of the SEA Region show that nearly 78% of the blood collected is used as whole blood, while only 22% is converted into components. In developed countries such as the United Kingdom, 100% of collected blood is converted into components. Conversion of collected blood into various components is an extremely effective way of overcoming the shortages of blood in developing countries. This also ensures safety for the recipient.

While the need for blood components is being realized in Member Countries of the Region, their capacity to produce these components has been limited and needs to be enhanced. Accordingly, a two-week intercountry workshop was organized at the National Blood Centre, Bangkok, Thailand from 9 to 20 December 2002. Fourteen participants from seven Member Countries of the South-East Asia Region attended the workshop.

2. OBJECTIVES

The objectives of the Workshop were as follows:

- (1) To assess the status of component production and organization of External Quality Assessment Scheme (EQAS) in participating countries;
- (2) To impart training on production of blood components;
- (3) To orient about the quality assurance in component production;

- (4) To produce material for use in EQAS and its distribution, and
- (5) To analyze the results of EQAS.

3. INAUGURAL SESSION

The Workshop was inaugurated by Dr Rachanee O'Charoen, Director of the National Blood Centre, Thai Red Cross Society. She welcomed the participants and emphasized the importance of the production, quality control and clinical use of blood components.

4. PROCEEDINGS

4.1 Pre-workshop Assessment of the Participants

A pretest with 21 multiple-choice questions was used to assess the pre-workshop knowledge of the participants. Each topic consisted of three questions. Participants were given 30 minutes to provide answers to these questions on the first day before the workshop began. The pretest results showed that only 5 (35.7%) participants scored more than 50% marks, none of these scored more than 60 percent.

4.2 Mechanics of Workshop

The main aim of the workshop was to provide the participants with the skills and knowledge about the production of quality blood components and clinical use of blood components. The workshop was largely in the format of short presentations, case studies, practices on blood component preparation to enhance better understanding on the clinical use of blood and how to organize a successful blood component programme.

The participants visited all sections of the National Blood Centre and the Chulalongkorn Hospital Blood Bank to see how to work at the user's end.

4.3 Summary of Subjects Covered

First week

The major objective of the activities in the first week was to provide knowledge on clinical use of blood components, equipment needed in the

preparation of blood component and material for EQAS, and storage of blood component. Other important topics covered included: quality control in blood component, awareness of quality control in blood component preparation/storage/issue/transportation, donor selection, blood collection, infectious markers screening, haemapheresis and interpretation of results of EQAS.

Second week

In the second week, participants were provided with hands-on training. Participants were mainly engaged in practice in the preparation of blood component and EQAS material, spending most of their time at the blood component preparation section.

4.4 Post-workshop Assessment of the Participants

The same test with 21 multiple-choice questions (five choices) that was used to assess the pre-workshop knowledge of the participants was administered on the last day. The result revealed a significant improvement with all the participants scoring more than 50% marks. Eleven (78.6%) of these scored more than 60 per cent marks, seven of these scoring more than 70 percent marks.

5. VALEDICTORY SESSION

The valedictory session and certificate presentation ceremony were chaired by Mr. Phan Wannamethee, Secretary-General of the Thai Red Cross Society, wherein Prof Zeyar Htun from Myanmar and Dr Habibul Islam from India expressed their gratitude, on behalf of the participants, to WHO and to the National Blood Centre for arranging the training course.

6. RECOMMENDATIONS

6.1 To Member Countries

- (1) They should make the utmost use of the knowledge and experience gained from the workshop to establish and develop their blood component preparation units.

- (2) An appropriate infrastructure should be created so that components can be separated from the collected blood and quality of separated components is assured.
- (3) The prescribers of blood should also be oriented in proper use of components.
- (4) Staff working in production units should be trained/oriented in quality assurance of components and EQAS material.
- (5) EQAS should be commenced with indigenously produced material to support quality systems in blood centers.
- (6) National Blood Centre, Bangkok, Thailand should be approached for any technical support and trouble shooting in component separation and preparation of EQAS material.

6.2 To WHO

Technical support should be continued to all Member Countries in production of quality blood components and material for EQAS as well as rational use of blood.

Annex 1

LIST OF PARTICIPANTS

Bangladesh

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Annex 2
PROGRAMME OF WORK

9 December 2002

0830–0900 hrs	Registration	
0900- 0915 hrs	Opening Ceremony	Dr Rachanee
0915- 0945 hrs	Pre-test	Mrs Kessiri
0945- 1045 hrs	Clinical use of blood components I	Prof. Pimol
1115- 1200 hrs	Clinical use of blood components II	Prof. Pimol
1300- 1330 hrs	Equipment needed in blood component preparation and storage	Mrs Aroonrat
1330- 1430 hrs	Blood component preparation I	Mrs Aroonrat
	<ul style="list-style-type: none">- Acceptance criteria of blood units for blood component preparation- Specifications of blood components- Blood component preparation	
1500- 1630 hrs	Case study for blood component therapy I	Prof. Partraporn

11 December 2002

0900- 1015 hrs	Quality control in blood component	Mrs Pintira
	<ul style="list-style-type: none">- Cellular components - packed red cell, platelet concentrate- Plasma components - fresh frozen plasma, cryoprecipitate, cryo-removed plasma	

1030- 1200 hrs	Demonstration : Quality Control Laboratory	Mrs Pintira
1300- 1400 hrs	Techniques in blood component preparation	Mrs Aroonrat
1400- 1630 hrs	Practice : Blood component preparation I	Mrs Aroonrat Mr Piyamet Ms Warunee

12 December 2002

09.00- 10.15 hrs	Awareness of quality in blood component preparation/ storage/ issue/ transportation	Prof. Pimol
1030- 1100 hrs	Blood collection	Mrs Juree
1100-1200 hrs	Testing <ul style="list-style-type: none">- ABO and Rh (D)- Antibody screening- TTI- Transportation of blood units prior to blood component preparation- Inspection of finished product- Labeling, storage, issue	Mrs Sineenart
1300- 1345 hrs	Donor selection	Dr Soisaang
1345- 1630 hrs	Practice : blood component preparation II	Mrs Aroonrat Mr Piyamet Ms Warunee

13 December 2002

0900- 1015 hrs	Hemapheresis	Ms Pawinee Ms Somjai
1030- 1200 hrs	Hemapheresis (continued)	
1300- 1400 hrs	Case study II	Prof. Pimol
1400- 1630 hrs	Practice : blood component preparation III	Mrs Aroonrat

Mr Piyamet
Ms Warunee

16- 19 December 2002

0900- 1630 hrs	Practice : blood component preparation IV	Mrs Aroonrat
	Group discussion	Mr Piyamet Ms Warunee

20 December 2002

0900- 1200 hrs	Practice : blood component preparation V	Mrs Aroonrat
	Group discussion	Mr Piyamet Ms Warunee
1300-1330 hrs	Post test	Mrs Kessiri
1330-1430 hrs	Conclusion	Prof. Pimol
1500-1600 hrs	Certificate Presentation and Closing Ceremony	Dr Rachanee