WORKSHOPS

NATIONAL TESTING STRATEGY AND ALGORITHMS FOR SCREENING OF BLOOD FOR TRANSFUSION TRANSMITTED INFECTIONS

OCTOBER-NOVEMBER, 2013

SAFE BLOOD TRANSFUSION PROGRAMME
GOVERNMENT OF PAKISTAN
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1. Preface

The establishment of systems to ensure that all donated blood is screened for transfusion-transmitted infections is a core component of any national blood programme. Globally, however, there are wide variations in the extent to which donated blood is screened, the screening strategies adopted and the overall quality and effectiveness of the blood screening process.

Since the last three years, Pakistan has been the recipient of support from WHO-OFID Joint Programme for the prevention of Transfusion Transmittable Infections. Through this Programme training activities and studies have been conducted throughout the country with an objective to improve the standard of screening in the blood centers and preventing the spread of infections through transfusions. Among the studies conducted included the development of the national screening strategies and algorithms. The adoption of these screening strategies and algorithms can contribute significantly to improvements in blood safety. According to WHO recommendations, every facility in which screening is performed should have a suitable infrastructure and quality system to perform effective blood screening for transfusion-transmissible infections. Similarly, all staff involved in blood screening should be trained to perform their functions to nationally required standards. The subject training workshops were thus organized in four provinces of Pakistan with this objective in mind.

The organization of the workshops would not have been possible without the cooperation of the respective provincial programmes and the key partners in the private sector. The Programme would also like to appreciate the coordination role of Dr. Quaid Saeed from the WHO country office. Also acknowledged is the role of facilitators who spared their valuable time to impart training in these workshops. The SBTP Team including Zain Taren, Syed Sajid Shah, Bilal Ahmed Tareen, Kamran Khan, and Usman Waheed, deserve special appreciation for their hard work and commitment in conducting these workshops in a very professional manner.

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2. Introduction

Lack of appropriate manpower is one of the major constraints in the development and strengthening of blood transfusion services in Pakistan. Appropriate trainings require planning of training programmes and refresher courses for the staff working in the blood banks. With the objective to train the existing BT manpower in TTI screening techniques and to acquaint them with the quality standards in screening processes, the Programme conducted four training workshops across Pakistan through the WHO-OFID Joint Programme. The workshops were held in Islamabad, Lahore, Karachi and Abbottabad in October-November 2013.

The Safe Blood Transfusion Programme coordinated with its provincial counterpart Programmes to organize the workshops in the respective provinces. Earlier, a National Testing Strategy and Algorithms for screening of blood for TTIs was developed. The subject workshops were conducted with the support from the OFID-WHO Joint Programme to train the stakeholders on these strategies.

Pre and post course assessment was done in every workshop to have a systematic collection and analysis of information to improve participants’ learning. Based on the assessment results it can be concluded that the trainings were very successful in terms of knowledge dissemination and knowledge retention as indicated by the Pre- and post-course assessments.

The training modules for the TTI workshops were designed in accordance with the WHO guidelines. The participants staff selected for the workshop were primarily experienced blood bank laboratory staff who are actively involved in the daily routine of work of their blood banks. As detailed in the Report, the workshops helped create a learning environment for this target group. As the workshop was of three day duration only and a lot of theory and training had to covered so it was felt that formal professional education needs to be standardized and a certificate and/or diploma in transfusion medicine needs to be launched. The lack of uniformity and standardization in training and academic education of blood bank laboratory staff has resulted in inadequately trained human resource employed in Blood Banks. In addition, the trainings should be planned in a step-wise process with one topic discussed per workshop which would ease the assimilation of new learning contents by laboratory staff. The strengthening of national HR capacity in blood establishments would be an important step towards the enhancement of blood safety.

In order to create a comprehensive curriculum for blood transfusion laboratory staff, an investigation of the existing blood transfusion modules in Pakistan must be organized. The new curriculum developed must be adapted throughout the country to achieve uniformity and standardization of education and training.
3. WORKSHOPS

3.1. Pakistan Institute of Medical Sciences, Islamabad

The workshop in Islamabad was conducted at the Pakistan Institute of Medical Sciences from October 31, November 2, 2013. The programme started with opening remarks by the PSBT President Prof. Hasan Abbas Zaheer, who is also Incharge BTS, PIMS and Project Director of the Safe Blood Transfusion Programme (SBTP), Pakistan. Prof. Zaheer gave a brief overview of the Government of Pakistan’s recent blood safety systems reforms in the country, which is working towards the establishment of a centrally coordinated blood transfusion system in the country based on the WHO model which promotes among other things, separation of production and transfusion functions. Thirty participants attended the workshop. The workshop participants included laboratory technicians and technologists from public and private sector blood banks of Rawalpindi and Islamabad. In addition, university students (BS to MS level) from Biological and Medical Science Faculties were invited.

The workshop was facilitated by Dr. Rubina Kamran, Incharge Microbiology PIMS, Dr. Arshad Malik, Assistant Professor IIU, Mr. Usman Waheed, Technical Expert SBTP and Mr. Asim Ansari, Incharge Blood Bank, KIH. The workshop included lectures and hands-on training on various aspects of Transfusion Transmitted Infections screening with a special emphasis on the screening strategies and algorithms.
Every participant performed the rapid testing and ELISA for screening. Quality assurance aspects of the screening along with discrepancies in the performance were discussed in detail. The topics of the workshop included V2V Transfusion Chain, Existing and Re-existing TTIs, Screening Assays for TTI, Screening for HCV, HIV, HBV, syphilis and malaria, Biosafety and Bioethics, Quality Assurance in Laboratory Testing, Staff Education and CME, National Strategy for TTI Screening, Blood Quarantine and Release and Routine and Emergency Screening.

The workshop concluded with a certificate distribution ceremony among the participants by Prof. Hasan A. Zaheer. He urged the students to become quality ambassadors at their place of work and spread the message of quality in vein to vein transfusion chain especially in the screening procedures.
3.2. Institute of Blood Transfusion Service, Lahore

The workshop for the province of Punjab was conducted at the Institute of Blood Transfusion Services (IBTS), Lahore from 4–6 November, 2013. This activity was the second among the series of workshops conducted nationwide with the support of WHO-OFID by SBTP. Thirty participants attended this workshop from various districts of the province.

Formal session started by opening remarks by Prof. Dr. Mahfooz-ur-Rahman, Director IBTS. He shared history of the institute coupled with mission, vision and working capabilities of IBTS along with some success stories in the last couple of years including curbing the Dengue epidemic. Punjab is the most populous province of Pakistan, with approximately 45% of the country's total population (81 million).

The hierarchal organizational structure of Punjab BTSs is the best in the country; with Institute of Blood Transfusion Services (IBTS) supporting the public sector (123) blood banks. However, due to the devolution process, the administrative and control of the Tehsil Blood Banks by the IBTS has lately been transferred to city district governments. The Punjab IBTS still retains the technical quality monitoring for all provincial BBs. According to a Survey in Punjab in 2005 shows that there are about 1112 private sector blood banks (either stand-alone blood banks or attached to private hospitals) and 107 NGO based BBs (such as Fatimid, PRCS, Sundus Foundation). IBTS has no control over the private blood banks. In 2009 public sector blood banks (123) collected 570,000 units but the data for private blood banks is not available. IBTS provides blood transfusions to the general population, training of technical personnel in the province, and is considered the reference centre, in serology for TTIs. QA measures are still extremely deficient and the personnel, although dedicated, need extensive training in quality aspects.

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The facilitators of the workshop, Mr. Usman Waheed and Mr. Asim Ansari, gave presentations on screening assays for all TTIIs along with quality assurance and biosafety and biosecurity. Presentations were very interactive and participants participated in discussions actively. Practical sessions were also carried out at the end of each day. Participants were quite comfortable the way topics were delivered and the practicals were performed.

At the end of the 3rd day, certificates were distributed among the participants and shields were also awarded to the presenters and facilitators by the Director, IBTS. The Director also expressed his proud thanks to the facilitators and SBTP for this academic activity. He also wished to make this exercise regular so that knowledge could be refreshed.
3.3. Husaini Blood Bank, Karachi

The workshop for the province of Sindh was conducted at the Husaini Blood Bank, Karachi from November 4-6, 2013. A total of 40 participants including doctors and laboratory technicians/technologists from government, NGOs and private sector blood banks of Sindh province attended the interactive and hands-on training workshop. The facilitators of the workshop included Dr. Zahid Hasan Ansari, Secretary, Sindh Blood Transfusion Authority, Dr Ashraf Memon, Senior Pathologist, Sindh AIDS Control Programme, Dr. Sadia Sultan, Haematologist, Liaquat National Hospital, Dr. Sarfraz H. Jafri, Administrator, Husaini Blood Bank and Dr. Saeed Ahmed, Head/Consultant, Husaini Blood Bank.

The workshop started with the recitation of Holy Quran followed by welcome address by Mr. Asad Ali, CEO Husaini Hematology and Oncology Trust. He thanked the Safe Blood Transfusion Programme and WHO for organizing the training at Husaini Blood Bank. Mr. Asad Ali highlighted the importance of blood screening, gave introduction about the Trust and offered his full cooperation to the participants and WHO organizers. Dr. Zahid H. Ansari briefed the participants on the blood transfusion authority activities. The presentations delivered by the facilitators were to the point, simple and brief so the audience is able to understand and comprehend.
Dr. S. Mansoor Abbas, Special Secretary Health, Govt. of Sindh was the chief guest in the closing ceremony. He distributed shields and certificates among the facilitators and the workshop participants. In his address, he appreciated the facilitators expertise and participants interest in the training, highlighted the importance of screening in blood transfusion. He acknowledged the Husaini Institute which has all the facilities for basic and advance trainings including latest equipments, technologies and expertise. He advised all the participants to apply the training knowledge in their blood banks and ensure patient safety at all levels. He offered his gratitude to Dr. Quaid Saeed, National Programme Officer WHO, Prof. Hasan Abbas Zaheer, Project Director SBTP, Dr. Zahid H. Ansari, Mr. Asad Ali, and all facilitators for arrangement, facilitation and active participation.
3.4. Ayub Medical College, Abbottabad

The training workshop for Khyber Pakhtunkhwa and Azad Jammu and Kashmir was organized at the Ayub Medical College (AMC), Abbottabad from November 7-9, 2013. The objective of the workshop was to provide the blood bank staff a better understanding of the basic blood bank processes and also explain to them the new strategy and algorithm for screening of TTI.

Thirty five participants attended the workshop. The workshop participants included laboratory technicians and technologists from public and private sector blood banks of Khyber Pakhtunkhwa and Azad Jammu Kashmir. The workshop was facilitated by Mr. Usman Waheed, Advisor SBTP, Mr. Asim Ansari, Incharge Blood Bank KIH, Dr. Arshad Malik, Assistant Professor Biotechnology IIU, Dr. Noaman Siddiqui, Head of Medical Education, AMC and Dr. Muhammad Idrees, Consultant Haematologist Ayub Medical College.

The workshop started with the opening remarks by Dr. Muhammad Idrees. He said that all these trainees are performing the vein-to-vein procedures but they should be taught to achieve personal as well as patient safety. The whole chain processes have undergone various phases of development yet needs further improvement especially in developing countries. There are SOPs, standards and guidelines available but the implementation part remains a desire to be fulfilled. He requested the participants to implement the techniques and principles they learn in the training to their places of work and achieve quality. Knowledge is such a wealth that increases when it is spent and vice versa.
The workshop was conducted in an interactive manner and consisted of presentations, discussions, group activities and practical sessions. The topics discussed included V2V Transfusion Chain, Existing and Re-existing TTIs, Screening Assays for TTI, Screening for HCV, HIV, HBV, syphilis and malaria, Biosafety and Bioethics, Quality Assurance in Laboratory Testing, Staff Education and CME, National Strategy for TTI Screening, Blood Quarantine and Release and Routine and Emergency Screening.

Dr. Noaman Siddiqui in his closing remarks thanked the SBT Programme team for their precious time to update the technical knowledge of the participants with regards to Transfusion Transmitted Infections and screening strategies. He said that the workshop has resulted in the knowledge enhancement of the participants including himself. He proposed to conduct these capacity building programmes on regular basis. Closing session was chaired by Principal Ayub Medical College, Prof. Shahid Sultan who appreciated the efforts of SBTP in conducting the workshop at AMC premises and ensured his full supported for future initiatives. He distributed souvenirs among the speakers.
4. PRE- & POST- COURSE ASSESSMENT RESULTS

The pre- and post-course assessment is an effective method to assess the learning effectiveness and continue improving the instructor's teaching ability. Pre- and post-course assessment was done for every workshop to have a systematic collection and analysis of information to improve participants’ learning. The concept of pre- and post-course assessment is quite simple. Participants were given a pre-course assessment at the beginning of the training and a post-course assessment at the end of training. During the development process, the objectives of the course were defined first. Then, 20 questions with multiple choice options, which cover the basic topics of the course, were developed along with instructions for completing the assessment (Annex-B). The results of the analyses provided valuable inside information regarding the participants’ learning and effectiveness of teaching. Furthermore, the results will be used to continue improving teaching efforts since the results have shown which topics students had difficulty learning and where the instructor should pay closer attentions in the classroom. Overall, the knowledge after the post-course assessment has been raised.

4.1. Workshop 1 (Islamabad)

The participants scored 75.9% on an average in the post-course assessment as compared with 57.4% in the pre-course assessment.
4.2. Workshop 2 (Lahore)
The participants scored 74.4% on an average in the post-course assessment as compared with 52.6% in the pre-course assessment.

4.3. Workshop 3 (Karachi)
The participants scored 73.5% on an average in the post-course assessment as compared with 53.4% in the pre-course assessment.

4.4. Workshop 4 (Abbottabad)
The participants scored 75% on an average in the post-course assessment as compared with 50.25% in the pre-course assessment.
5. ANNEXES
### 5.1. Annex-A Workshop Programme

<table>
<thead>
<tr>
<th>Time</th>
<th>Subjects Workshop Day 1</th>
<th>Format</th>
<th>Actor</th>
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<td>09:20-09:25</td>
<td>Quotation from the Holy Quran</td>
<td>Recitation</td>
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<td>Introduction</td>
<td>Forum</td>
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<td>Introductory Remarks</td>
<td>Speech</td>
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<td>09:40-09:50</td>
<td>SBTP Presentation</td>
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<td>Pre-Course Assessment</td>
<td>Joint Activity</td>
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<td>10:20-10:40</td>
<td>V2V Transfusion Chain</td>
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<td>10:40-11:10</td>
<td>Existing and Emerging TTIs</td>
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<td><strong>11:10-11:30</strong></td>
<td><strong>Group Photograph and Tea Break</strong></td>
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<tr>
<td>11:30-11:50</td>
<td>Screening Assays (ICT, ELISA, CLIA, NAT)</td>
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<tr>
<td>11:50-12:10</td>
<td>Screening for Hepatitis B Virus</td>
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<td>Screening for Hepatitis C Virus</td>
<td>Presentation</td>
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<tr>
<td>12:30-12:50</td>
<td>Screening for HIV</td>
<td>Presentation</td>
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<td>12:50-13:30</td>
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<td><strong>01:30-02:20</strong></td>
<td><strong>Lunch and Prayer Break</strong></td>
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<tr>
<td>02:20-03:50</td>
<td>Hands-on Training (ICT Testing for HCV, HIV)</td>
<td>Demonstration</td>
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<td>03:50-04:00</td>
<td>Questions and Answers</td>
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<td>04:00</td>
<td>Conclusion of WS Day 1</td>
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<td>Speech</td>
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<td>08:50-09:20</td>
<td>Screening for Syphilis</td>
<td>Presentation</td>
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<tr>
<td>09:20-09:50</td>
<td>Screening for Malaria</td>
<td>Presentation</td>
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<td>09:50-10:20</td>
<td>Routine and Emergency Screening</td>
<td>Presentation</td>
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<td>10:20-10:50</td>
<td>National Screening Strategy and Algorithm</td>
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<tr>
<td>10:50-11:20</td>
<td><strong>Tea Break</strong></td>
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<tr>
<td>11:20-12:20</td>
<td>Hands-on Training (ICT for Syphilis, Malaria)</td>
<td>Demonstration</td>
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<tr>
<td>12:20-01:30</td>
<td>Hands-on Training (ELISA)</td>
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<td>Demonstration</td>
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<td>03:10-03:30</td>
<td><strong>Questions and Answers</strong></td>
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<td>Conclusion of WS Day 2</td>
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<td>09:20-09:50</td>
<td>Nucleic Acid Testing (NAT) vs ELISA/CLIA</td>
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<td>09:50-10:20</td>
<td>Blood Quarantine and Release</td>
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<td>10:20-10:40</td>
<td>Quality Control and Quality Assurance</td>
<td>Presentation</td>
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<td>10:40-11:00</td>
<td>Staff Education, Standards and CME</td>
<td>Presentation</td>
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<td>11:00-11:20</td>
<td><strong>Tea Break</strong></td>
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<td>11:20-01:20</td>
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<td>01:20-01:30</td>
<td><strong>Questions and Answers</strong></td>
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<td>01:30-02:20</td>
<td><strong>Lunch and Prayer Break</strong></td>
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<td>02:20-02:40</td>
<td>Post-course Assessment</td>
<td>Joint Activity</td>
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<tr>
<td>02:40-02:50</td>
<td>Remarks from the Participants (any 3)</td>
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<tr>
<td>02:50-03:00</td>
<td>Concluding Remarks</td>
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<td>03:00-03:30</td>
<td>Certificates Distribution</td>
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5.2. Annex-B Pre- and Post-Course Assessment Questionnaire

WHO/SBTP Workshop on National Testing Strategy and Algorithms for Screening of Blood for Transfusion Transmitted Infections

Pre-Course Assessment Questionnaire

Name: ________________________________

1. The donor questionnaire is:
   □ not needed because testing for infectious agents is performed
   □ important for the health of donor and patient
   □ needed for registration of the telephone number of the donor
   □ will be proof of a successful donation

2. The donor questionnaire:
   □ has no data concerning the physical examination of the donor
   □ must be archived for at least 1 week
   □ can be destroyed after issuing the blood products
   □ must be stored for more than 2 years

3. Syphilis screening
   □ is not mandatory for Pakistan
   □ is always performed with an EIA technique
   □ is only performed in man
   □ is performed in order to prove existence of Treponema antigens

4. Rapid tests are used when:
   □ a very sensitive result must be available
   □ the donor examination points out there is a possible infection
   □ only with first donors
   □ never, EIA test must always be used as standard test

5. HBsAg:
   □ is not found in Hepatitis B reactive donors
   □ is found first in central Africa
   □ is a test to determine the presence of HBV core molecules
   □ is an acronym for Hepatitis B Surface Antigen

6. Inadequate washing of microtest plate wells:
   □ will result in dirty plates during the test procedure
   □ is not often found with automated plate washers
   □ is the result of using demineralized water (distilled water must be used)
   □ will result in false positive results

7. The windows phase of an infection is:
   □ the period where only antigen can be detected
   □ the period where only antibody can be detected
   □ the period where both antibody and antigen can be detected
   □ no antibody nor antigen can be detected

8. The ratio of an measurement in an ELISA test is:
   □ the measurement value of a sample divided trough the cut-off value
   □ an other name for the cut-off value
   □ the number of reactive samples on a plate
   □ the mean value of the positive controls

9. A smaller rotor radius of a centrifuge
   □ will give more g forces to the tubes to be centrifuged
   □ will give less g forces to the tubes to be centrifuged
   □ does not influence the g force
   □ can be placed in any centrifuge larger than the original

10. If a screening test is initial Reactive:
    □ The plasma of the donation must be tested afterwards
    □ The donor must be informed
    □ Confirmatory testing in a specialized laboratory must be performed
    □ The same sample must be tested in duplicate in the next run
11. Quality control of ELISA:
  - Is normally done by plate readers automatically
  - Must be part of the daily routine of ELISA
  - Is part of fully automated EIA robotics
  - Is performed by the Quality Assurance Manager

12. In EIA an enzyme is used to:
  - Change an antibody to a colored product
  - Catch the antibody to the solid phase
  - Catch the antigen to the solid phase
  - Change the substrate to a colored product

13. A PCR has the following steps:
  - Extraction, amplification & detection of DNA
  - Extraction, amplification & detection of RNA
  - Pooling, amplification & detection of DNA
  - Pooling, amplification & detection of RNA

14. Malaria is caused by:
  - Plasmodium species
  - Trypanosomes
  - Leishmania species
  - None of the above

15. RPR is used for the diagnosis of:
  - Dengue Fever
  - Malaria
  - HCV
  - Syphilis

16. Red Cell Concentrates in CPDA-1 (anticoagulant) can:
  - Be stored in a refrigerator up to 14 days
  - Be stored in a refrigerator up to 21 days
  - Be stored in a refrigerator up to 28 days
  - Be stored in a refrigerator up to 35 days

17. Platelet concentrates will be stored:
  - In an incubator of 22-24 °C on an agitator
  - In an incubator of 22-24 °C only
  - Can be stored up to 12 days
  - Must be used directly after production

18. p24 antigen testing is used for the diagnosis of:
  - HBV chronic infection
  - Plasmodium infection
  - HIV/AIDS
  - None of the above

19. Nucleic Acid Testing (NAT)
  - Is more specific than ELISA
  - Is out-dated
  - Results in high false positive results
  - None of the above

20. In emergency situations:
  - Blood can be issued without screening
  - Blood should only be issued after screening with ELISA/CLIA
  - Blood can be issued after screening with rapid devices (WHO approved)
  - None of the above

Total: 20
Obtained: [20]
5.3. Annex C Comments by the Participants

KRL Hospital Blood Bank
“I liked the conference very much specifically the technical approach of delivering the knowledge to start from the basics that allowed me to learn, even being a junior in the field and also that the medium of communication being native language was a very professional approach by the respected facilitators”

--Mr. Muhammad Khalid Lab Technician Islamabad

Capital Hospital Blood Bank Representative
“The conference was very good and I learned a lot. It was the first time I was demonstrated with the high quality standards that not only me but everyone in the field should adopt in order to achieve the optimum quality work in the blood banks and to decrease the casualties being caused in blood banks nowadays”

--Mr. Tariq Aziz Technologist Islamabad

Rawalpindi Medical College
“The session was very informative for me by the practical as well as theoretical aspect, I learned new things even though I didn’t had a prerequisite knowledge as am a second year student. And I will do my level best to maintain the quality of work in my professional life”

--Ms. Farah Shafiq Student Islamabad

Shahid Zulfiqar Ali Bhutto Hospital
“Mr. Asim and Mr. Usman has delivered very good lectures and that they were very informative, that I will feel honored to attend such a workshop in the future God willingly”

--Mr. Muhammad Asif Blood Bank Technician Khanpur
Institute of Blood Transfusion Services Punjab

“I am very thankful to Mr. Usman and Mr. Asim that they have delivered us with the job related practical as well as technical knowledge to me and my fellows. Knowing about job description was very good and that in all the areas the job descriptions should be told precisely and technically so that the person can be held responsible for his tasks and not for those tasks which don’t belong to him.

I will do my best to spread the knowledge I gained among my fellow technicians and will pursue them to follow the International Standards of quality as I was told in the workshop.”

--Mr. Muhammad Shahzad
Blood Technician
Lahore

Peoples Med. College Nawab Shah

“The workshop is a great effort. It not only increased our knowledge but also skills and abilities. Mr. Usman, Mr. Asim and Dr. Arshad had a complete grip on the subject and that I would like to contact them in future to resolve any technical issues regarding practice in blood bank.”

--Mr. Ashraf Khoso
Laboratory Technician
Nawab Shah

SGH Liqueatabad Karachi

“The workshop was very good and very informative. It has increased my knowledge and I will apply this theoretical knowledge practically in my line of work and I will maintain the optimum level of quality throughout my work.”

--Ms. Jane e Islam
Laboratory Technician
Karachi

Ayub Medical College

“The workshop was a source of knowledge to me. I thank the facilitators and expect that I will be invited in the future because I never seen a workshop on TTI before. I am motivated to practice the quality assure work in my future professional career and I will try to motivate my colleagues too.”

--Ms. Muneeba Azmat
MBBS
Abbottabad
5.4. Annex D Speakers’ Profile

Dr. Hasan Abbas Zaheer is Professor and Incharge Blood Transfusion Services, Pakistan Institute of Medical Sciences. He is also the Project Director of the Blood Transfusion Programme. He has a wide experience in Public Health Projects and Transfusion Services. He was instrumental in developing the National Blood Policy and Strategic Framework. Earlier he has also worked as the National Programme Manager of the National AIDS Programme formulating the National HIV/AIDS Policy. More than 20 years of experience of teaching (pathology, hematology, transfusion medicine and public health) to postgraduate medical students, medical technicians and public health professionals in diploma, degrees, MPhil and Ph.D. programmes. As a researcher, he has to his credit a number of research publications on topics of hematology, HIV/AIDS, blood transfusion and public health published in international and national indexed journals. He is also one of the Editors of an indexed medical journal Annals of PIMS, BMJ Open Journal, Journal of Public Health & Epidemiology and Journal of AIDS and HIV Research.

Prof. Dr. Mahfooz ur Rahman has a vast experience in blood transfusion. He is working as a Director, Institute of Blood Transfusion Service, Lahore. He is a medical graduate with MPhil in Haematology from PGMI. Earlier he has also worked as Professor of Pathology at the PGMI, Lahore. He is among one of the senior haematologists in the country. He has been active in curbing the Dengue epidemic in the province and is serving on the Task Force headed by the Chief Minister. Under his leadership, the Province has instigated the construction of Regional Blood Centres through the support of German Government.

Dr. Zahid Hasan Ansari is Chief Pathologist at the Department of Health, Government of Sindh. He is serving as the Secretary, Sindh Blood Transfusion Authority. Under his command, the authority has been working considerably well covering all province. The authority has initiated registration and licensing process and is the only authority in the country which is activated. Dr. Ansari is also heading the Blood Transfusion Programme of the province and is working towards the system reform through his programme. He has been active in initiating the construction work of Regional Blood Centres in his province which are now near completion.

Dr. Saeed Ahmed is Head of the Husaini Blood Bank in Karachi, the largest NGO sector blood bank in Pakistan with more than 150,000 donations per year. He did his MBBS from Quaid-i-Azam Medical College, Bahawalpur and MS in Transfusion Medicine from Baqai Institute of Haematology. He is also a certified Quality Professional from PIQC Institute of Quality, NED University of Engineering & Technology. Dr. Saeed has a wide experience in teaching and training and has conducted several workshops related to immuno-haematology, basic blood bank processes, TTI screening, and quality management. He is also a Faculty Member of Husaini Institute of Haematology.

Usman Waheed is a Medical Laboratory graduate with a Masters in Biochemistry, MPhil in Molecular Biology and pursuing a PhD from Quaid-i-Azam University. He has completed Fellowship in Transfusion Medicine from Colombo and has also received post graduate diplomas/certificates in Public Health (Pak) and Epidemiology (Lon). Mr. Waheed acquired additional trainings in Transfusion Medicine and Quality Management from German Red Cross, Germany and Sanquin Blood Foundation, Netherlands. He has been involved with the teaching and training of Medical Laboratory students and examiner of BS MLT at University of the Punjab and Isra University, Islamabad. He has published > 20 research papers in national and international Journals besides authoring three handbooks related to Laboratory Sciences. He supervised the team formulating the National HIV Testing Strategy for Pakistan and currently investigating the molecular and genetic features of HIV in disease pathogenesis. A member of many professional bodies and international expert working groups, Mr. Waheed is serving on Advisory Board of American Society for Clinical Pathology and Safe Blood Transfusion Programme, Pakistan.
Dr. Muhammad Arshad Malik received his PhD in Life Sciences from Tsinghua University Beijing, China in July 2011. He has been affiliated with Microbiology & Immunology Department at University of Health Sciences Lahore prior to going for his PhD. Dr. Arshad Malik is currently serving as an assistant professor at Department of Bioinformatics & Biotechnology, Faculty of Basic and Applied Sciences, International Islamic University Islamabad, Pakistan. He has a number of publications in the area of infectious diseases and been involved in teaching Immunology, Microbiology and Cell Biology at graduate level in addition to teaching various courses of Biotechnology to Post-graduate students. Moreover, Dr. Arshad Malik is the Co-Author of a book entitled “Serological Techniques in Immunology” published by a US publishing company. Main areas of interest of Dr. Arshad Malik include Emerging Infectious Diseases and their Immunological aspects.

Asim Ansari is a Medical Laboratory Technology graduate with Masters in Biochemistry & Molecular Biology. He has received a number of professional diplomas/certificates during his carrier along with the immense and diverse experience starting from a bench worker to a Manager. His core competencies include Laboratory/Healthcare Management, LIS/HMIS domain expert, ISO Quality Management, Infection Control and Personnel Capacity Building in Laboratory Sciences. He is a certified ISO-15189:2007 Technical Assessor by Pakistan National Accreditation Council (PNAC) and Norwegian Accreditation (NA). His interest in Infection Control & Health Informatics took him to the International Federation of Infection Control (IFIC) and e-Health Association of Pakistan (eHAP) respectively as associate member. He has written multiple manuscripts in local and international journals and was also the co-author, with Usman Waheed, of two handbooks ‘Histotechniques’ and Clinical Microbiology for laboratory professionals. He remained affiliated with well-reputed and known quality diagnostic facilities and currently serving as a Manager, Pathology Laboratory and Blood Bank at a private hospital in Islamabad.

Dr. Sarfraz H. Jaffri is a Medical graduate with an immense experience in the field of transfusion medicine. He has been working with the Husaini Blood Bank since its inception. Dr. Jaffri has remained the Project Director of the Global Fund Blood Safety Programme and currently working as Administrator/Consultant at the Husaini Blood Bank Karachi. He has been presenting and publishing his research work at national and international fora. He has also contributed to the SOP Manual published by the Safe Blood Transfusion Programme.

Dr. Muhammad Ashraf Memon is a Senior Pathologist at the Sindh AIDS Control Programme, Government of Sindh. He got his MBBS in 1983 from University Of Sindh. He followed with a Masters in Infectious Diseases from University of London, and MCPS in Clinical Pathology from College of Physicians and Surgeons Pakistan. He currently supervise the laboratory work of Referral Lab at Provincial Implementation Unit of Sindh AIDS Control Programme which is also providing pre and post test counseling to all clients for HIV and STDs Testing. He has to his credit more than 25 research publications in international and national journals on virology, chemical pathology and epidemiology.

Prof. Syed Muhammad Irfan is a senior Hematologist working as Professor and Head of Hematology at Liaquat National Hospital, a 750 bed tertiary care hospital in Karachi. He is also the visiting Faculty at Dow University of Health Sciences (DUHS), Karachi, Pakistan. He was trained at Aga Khan University Hospital and holds fellowship in hematology from Pakistan and is also a fellow of American College of Physicians. He has also worked at King Faisal Specialist Hospital, Riyadh, Saudi Arabia. Dr. Irfan is member of American Society of Hematology (ASH), European Hematology Association (EHA) and International Society of Blood Transfusion (ISBT). He has been member CIBMTR (USA); working party on non-malignant hematological disorders and EMBMT working party on chronic leukemia. He is supervisor and examiner for FCPS and MRCGP. He has more than 20 publications in National and International Journals. He made numerous presentations at different at different forums. He writes regularly on health issues in National News papers. His professional interests are Chronic Leukaemias, Immune thrombocytopenic purpura (ITP), Thalassaemia management and Clinical blood transfusion.
Dr Muhammad Idris is FCPS in Medicine as well as FCPS in Clinical Haematology. He is Assistant Professor Pathology Department, AMA Abbottabad, Consultant Clinical Haematologist Oncology Unit ATH Abbottabad & Consultant Clinical Haematologist ABBAT Hospital and Laboratory Abbottabad. Earlier he has served as Consultant Clinical Haematologist Al-Noor specialist Hospital KSA. He has conducted many research studies on various topics including Acute Lymphoblastic, Leukaemia, ITP, Chronic Myeloid Leukaemia, Malaria, Visceral Leishmaniasis, Toxoplasmosis, Tuberculosis, NHL, Neutropenia, Thrombophilia and Thalassaemia. He has special interests in Transfusion Medicine, Bleeding Disorders, Haematological Malignancies, Red Cell Disorders and Laboratory Management.

Dr. Noaman Siddiqui is currently heading the Department of Medical Education, Ayub Medical College, Abbottabad. His has a vast experience teaching and conducting workshops and trainings especially in HIV/AIDS. He remained the team leader for HIV/AIDS Voluntary Counseling and Testing Program, Ayub Teaching Hospital, Abbottabad. He is member of the editorial board, journal of Ayub Medical College and is a member of various administrative committees of the institution. Dr. Noaman is the founding member of Abbottonians Medical Association® Abbottabad, a registered NGO which is running a welfare Blood / Thalassaemia and Eye Center in Abbottabad since 1996. He has experience of supervising blood transfusions, iron chelation therapy, clinical laboratory and also organizing many academic activities like conferences, seminars, workshops and social & welfare activities like free medical camps, eye surgery camps, vaccination, screening camps and medical surveys. He is also the executive member of Thalassaemia Federation of Pakistan and facilitated numerous workshops on clinical management of thalassemia and safe blood transfusion through this platform. He has been actively involved in disaster management and coordinated national and international efforts related to the rescue, relief and rehabilitation for the earthquake of October 2005, IDPs issue of 2009 and floods and other disasters of the recent past. Dr. Noaman is a certified trainer instructor of Institution of Learning Emergency Medicine (ILEM) and Basic Life Support and has trained thousands of people in Cardiac First Response and BLS. He is a member of many professional Associations and organizations and many research publications to his credit.
Lack of appropriate manpower is one of the major constraints in the development and strengthening of blood transfusion services in Pakistan. Appropriate trainings require planning of training programmes and refresher courses for the staff working in the blood banks. To fulfill this gap, the World Health Organization and Safe Blood Transfusion Programme recently organized a 3-day training workshop on National Testing Strategy and Algorithms for Screening of Blood for Transfusion Transmitted Infections (TTI) at the Ayub Medical College (AMC), Abbottabad. The objective of the workshop was to provide the blood bank staff a better understanding of the basic blood bank processes and also explain to them the new strategy and algorithm for screening of TTI.

The workshop participants included laboratory technicians and technologists from public and private sector blood banks of Khyber Pakhtunkhwa and Azad Jammu Kashmir. The workshop was facilitated by Usman Waheed, Advisor SBTP, Asim Ansari, In charge Blood Bank KIH, Dr. Arshad Malik, Assistant Professor Biotechnology IIU, Dr. Noaman Siddiqui, Head of Medical Education, AMC and Dr. Muhammad Idrees, Consultant Haematologist Ayub Medical College. The workshop started with the opening remarks by Dr. Muhammad Idrees. He said that all these trainees are performing the vein-to-vein procedures but they should be taught to achieve personal as well as patient safety. The whole chain processes have undergone various phases of development yet needs further improvement especially in developing countries. There are SOPs, standards and guidelines available but the implementation part remains a desire to be fulfilled. He requested the participants to implement the techniques and principles they learn in the training to their places of work and achieve quality.

Dr. Noaman Siddiqui in his closing remarks thanked the SBTP Programme team for their precious time to update the technical knowledge of the participants with regards to Transfusion Transmitted Infections and screening strategies.

Closing session was chaired by Principal Ayub Medical College, Prof. Shahid Sultan who appreciated the efforts of SBTP in conducting the workshop at AMC premises and ensured his full supported for future initiatives.
This is to certify that

Mr./Ms. Dr. has participated in the National Training Workshop on National Testing Strategy and Algorithms for Screening of Blood for Transfusion Transmitted Infections

held at Pakistan Institute of Medical Sciences, Islamabad

October 31 – November 2, 2013

Dr. Quaid Saeed
National Programme Officer
WHO Country Office
Pakistan

Prof. Hassan Abbas Ziaee
Project Director
Safe Blood Transfusion Programme
Government of Pakistan

Annex E Certificate Design
5.8. Annex F  Shield Design

Workshop on
National Testing Strategy and
Algorithms for Screening of Blood
for Transfusion Transmitted Infections

Presented to
Dr. M. Arshad Malik

Ayub Medical College, Abbottabad
November 7-9, 2013

Safe Blood Transfusion Programme
World Health Organization

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