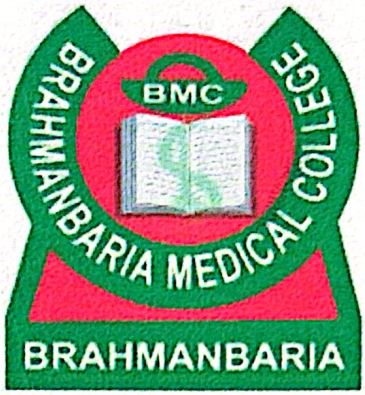

Standard Operating Procedure (SOP)

Microbiology Service Laboratory

Brahmanbaria Medical College Hospital

Ghatura, Brahmanbaria

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1. Purpose:

To establish the standard and uniform practice in collection of Blood for culture and susceptibility test for AMR Surveillance in Bangladesh.

2. Scope:

This document will be applicable for AMR surveillance as well as routine laboratory work of the Microbiology department

3. Responsibilities:

3.1 Primary: Medical Technologist/ Surveillance Staff Nurse (SSN);

3.2 Support: Project Facilitator (PF);

3.3 Supervision and Consultation: Microbiologist (lab-in-charge), Dept. of Microbiology.

4. Principles, Definitions/ Abbreviations:

4.1 Principles:

4.1.1 Blood cultures often yield growth of contaminating bacteria, due to inadequate preparation of the patient's venipuncture site and the phlebotomist. Therefore, aseptic technique during blood collection must be strictly followed to prevent false positive tests due to bacteria present in human skin and inanimate surfaces. Laboratory data show that contamination rates are lower for blood cultures obtained from direct draw of a peripheral vein. Therefore, blood cultures should not be drawn from the central line unless ordered by the physician.

4.2 Definitions:

4.2.1 Bacteremia: The presence of bacteria in the bloodstream; NOTE: Bacteria isolated from blood may be the cause of sepsis, indeterminate as a cause of sepsis, or contaminants.

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4.2.2 Sepsis: Systemic inflammatory response syndrome (SIRS) caused by documented infection is known as septicemia. SIRS is defined by the presence of two or more of followings:

4.2.2.1 Respiratory rate >20 breaths/min

4.2.2.2 Heart rate >90 beats/min

4.2.2.3 Temperature >38.0°C or <36.0°

4.2.2.4 White blood count >12 $\times 10^9$/L or <4 $\times 10^9$/L

4.2.2.5 *Pa*CO2 <4.3 kPa (<32 mmHg) or ventilated

4.2.3 Candidemia: The presence of candida (yeasts like fungus) in the bloodstream.

4.3 Abbreviations:

4.3.1 ABST: Antibiotic Susceptibility Test

4.3.2 PF : Project Facilitator

4.3.3 SSN : Surveillance Staff Nurse

4.3.4 AMR : Antimicrobial Resistance

5. Procedure:

5.1 Requirements:

5.1.1 Infection prevention & control (IPC) materials: Gloves, Mask, Gown, Disinfectant, Biohazard bag

5.1.2 Patient skin preparation materials:

5.1.2.1 70% isopropyl Alcohol/ Alcohol pad

5.1.2.2 Povidone-iodine / Povidone-iodine pad/ Chlorhexidine pad

5.1.2.3 Sterile Cotton

5.1.2.4 Tourniquet

5.1.2.5 Band aids, tape or pressure bandages

5.1.3 Multi-sample needle with safety guard -or- safety-lock butterfly needle

5.1.4 Syringes (sterile, disposable) (5ml/10ml)

5.1.5 Adapter used with butterfly and evacuated system (if necessary)

5.1.6 Blood culture bottles (Trypticase soy broth/BacT ALERT PF Plus/ BacT ALERT FA Plus/ BD BACTEC)

5.1.7 CD marker pen

5.2 IPC and Safety precautions:

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