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சுகாதார அமைச்சகம்

Ministry of Health

General Circular no: 02-116/2024

Deputy Director General - National Hospital Colombo, Kandy,
All Provincial and Regional Directors of Health Services,
All Director of Teaching/ Provincial/ District General Hospitals,
All Directors of Specialized Hospitals,
All Head of the institutions,

National Antimicrobial Stewardship Guideline for healthcare institutions in Sri Lanka

Antimicrobial stewardship is a systematic approach to educate and support health care professionals to follow evidence-based guidelines for prescribing and administering antimicrobials. Antimicrobial stewardship programms (AMS) play a crucial role in combating antimicrobial resistance (AMR) within healthcare settings. These programs are essential for optimizing antimicrobial prescribing practices, thereby slowing the spread of antimicrobial resistance and improving patient outcomes. Given the global challenge of AMR and the limited availability of new antimicrobial agents, it is imperative that healthcare institutions prioritize the implementation of effective antimicrobial stewardship initiatives.

As part of the revised National Strategic Plan for combating AMR (2023-2028), the Ministry of Health has developed the "National Guideline for Antimicrobial Stewardship (AMS) Programme in Healthcare institutions of Sri Lanka" (Annexure 1) to provide a framework for antimicrobial stewardship practices.

The guideline outlines the following for the implementation, monitoring and evaluation for antimicrobial stewardship programs.

1. **Governance Structure:**

   o Head of the institution should appoint the AMS team and it is jointly chaired by a consultant microbiologist and one of the senior consultant physicians. The AMS team will be functional under the supervision of the head of the institution.
   o This team should be linked to the Drug and Therapeutic Committee (DTC) of the health care institution and Infectious Prevention committee (IPC) when separate AMS committee is not established.
   o When there is no consultant microbiologist available onsite, the head of the institution should obtain the assistance from a consultant microbiologist in the nearest hospital.

2. **Situational Analysis:**

   o Conduct a situational analysis to identify strengths, weaknesses, opportunities, and threats related to AMS implementation.

3. **Policy Development:**
   - Adopt and implement an antimicrobial stewardship policy appropriate to the institution.

4. **Compliance to the issued guidance:**
   - Adhere to the "Empirical and Prophylactic Use of Antimicrobials National Guidelines Sri Lanka – Second edition 2024" and/or appropriate institutional guidelines developed and approved by the AMS team.
   - Implement and comply with the AWaRe classification circular (Circular No: 01-13/2024) dated 09/04/2024.
   - Attach an antimicrobial prescription chart (H 1338) (Annexure 2) to the BHT of all patients prescribed antimicrobials. Ensure all entries are made on this chart.

5. **Improve hospital procedures:**
   - Ensure prescribers to document their name, designation and the indication for antimicrobials on the bed head ticket (BHT).
   - Implement a mechanism to record the person who approve the "Watch" and "Reserve" antimicrobials as per AWaRe classification.
   - Ensure to collect appropriate samples for microbiological investigations before starting antimicrobials, without delaying treatment for critically ill patients.
   - Conduct regular antibiotic stewardship rounds at predetermined intervals based on the feasibility of the institution.

6. **Education and Training:**
   - Educate and train healthcare providers on best practices for antimicrobial use, antimicrobial resistance, and the importance of stewardship efforts.

7. **Monitoring and Feedback:**
   - Maintain a database for tracking necessary data, Quarterly reports should be presented at the drug and therapeutic committee meetings and, submit annual reports and audit findings to the national AMR focal point of the DDG Laboratory services.
   - Monitor antimicrobial resistance patterns, antimicrobial utilization (AMU), and antimicrobial consumption (AMC) and Provide feedback to relevant stakeholders.

Effective antimicrobial stewardship programs should be designed based on current knowledge of the relationship between antimicrobial use and resistance and should be overseen by multidisciplinary antimicrobial stewardship teams.

You are hereby instructed to abide by this circular and requested to refer the "National Guideline for Antimicrobial Stewardship (AMS) Programme in Healthcare institutions of Sri Lanka" (Annexure 1) for further clarifications. It is essential that healthcare professionals and staff members within your institution actively participate in the implementation of AMS practices according to the guideline.

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National Guideline for Antimicrobial Stewardship (AMS) Programme in Healthcare institutions of Sri Lanka

1. Introduction:

Antimicrobial resistance (AMR) is a global public health emergency which has particularly affected low and middle-income countries. Antimicrobial stewardship is considered as one of the key interventions to combat AMR and is defined as an organizational or healthcare system-wide approach to promoting and monitoring judicious use of antimicrobials to preserve their future effectiveness. According to the Organization for Economic Cooperation and Development (OECD) report (2018), implementing AMS programmes together with other policies to reduce overuse of antibiotics and promote hospital hygiene could save up to 1.6 million lives by 2050 and US$ 4.8 billion per year (1).

A national antimicrobial stewardship programme for hospitals in Sri Lanka was planned by the Ministry of Health in July 2016, with the development of the National Strategic Plan to combat AMR (2017 - 2022). As part of this programme, red-light antimicrobials circular (Circular No: 01-56/2016) was introduced. The revised National Strategic Plan for Combatting AMR is Sri Lanka (2023 -2028) includes the antimicrobial stewardship under the priority area five, "optimizing antimicrobial use". The red-light antimicrobial circular was replaced by AWaRe (Access, Watch and Reserve antibiotics) classification circular (Circular No: 01-13/2024) with the revision of the National Strategic Plan.

The AMS is one of three "pillars" of an integrated approach to health systems strengthening with infection prevention & control (IPC) and medicine & patient safety. Linking all three pillars to other key components of infection management and health systems strengthening, such as AMR surveillance and adequate supply of quality assured medicines, promote equitable and quality health care etc. towards the goal of achieving universal health coverage (1).

2. Objectives of the guideline:

This guideline is expected to provide a framework for establishing AMS programmes in health care institutions in Sri Lanka which will help;

- To promote rational use of antimicrobials in healthcare institutions.
- To optimize clinical outcome in the management of infections.
- To minimize unintended consequences of antimicrobial therapy including toxicity and allergies.
- To preserve existing antimicrobials for future use by reducing development of AMR.
- To reduce healthcare costs without compromising the quality of medical care.

3. Applicability and scope:

This guideline is applicable to all categories of healthcare institutions in Sri Lanka.

4. Responsible authorities for implementing the guideline

- Ministry of health and heads of the of the healthcare institution
- Antimicrobial stewardship (AMS) team
- Heads of the departments of clinical units
- All prescribers, nursing officers, pharmacists, and medical laboratory technologists

5. Implementation of AMS programmes

1. Establish the governance structure using the following framework.
   - Head of the institution
   - AMS committee or Drug and Therapeutic (DTC committee) or Infection Prevention and Control (IPC committee)
   - AMS team

   - **Head of the institution**
     - Head of the institute should be responsible for providing leadership support and accountable for the overall implementation of the AMS programme.
   - **AMS committee**
     - The AMS committee should provide leadership and overall coordination of the AMS programme.
     - The head of the institution is the chair of the AMS Committee.
     - When AMS committee cannot exist as a stand – alone committee, providing leadership and overall coordination of the programme should be assigned into an existing committee such as DTC committee or IPC committee.
   - **AMS team**
     - Antimicrobial stewardship team is appointed by the head of the institution. The consultant microbiologist and one of senior consultant physician will jointly chair the team. When the consultant microbiologist is not available within the hospital, head of the institution may get the assistance by the consultant microbiologist from nearest hospital. This team should be linked to the Drug and Therapeutic Committee (DTC) of the health care institution and IPC committee when separate AMS committee is not established.

   Composition of the institutional AMS Team:

   i. Consultant microbiologist and designated officer (one of the senior consultant physician) – Team lead
   ii. One of the consultants representing each of the major specialties

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iii.   Consultant anesthetist or intensivist if available

iv.   Consultant health informatician or designated officer if available

v.   Senior medical officer - OPD

vi.   Medical officer quality management unit/ Microbiology /Infection Prevention and Control (IPC) unit/ planning unit/ clinical wards

vii.   Senior grade nursing officer/ one senior sister in charge/ Infection control nursing officer/Nursing Officer from clinical wards

viii.   Chief Pharmacist

ix.   Senior MLT

x.   Any other relevant member (can be co-opted by the head of the institution)

2. Situational analysis should be performed before implementing AMS programme to identify the strengths, weaknesses, opportunities, and threats in the institution

3. An antimicrobial stewardship policy for the institution should be developed

4. Implement documentation of the name and designation of the prescriber of antimicrobials and indication on the bed head ticket (BHT).

5. Ensure compliance with "Empiric and Prophylactic Use of Antimicrobials, National Guidelines 2024" and/or appropriate institutional antimicrobial guidelines approved by the AMS team where applicable.

6. Implement circular on AWaRe classification (circular no: 01-13/2024) in the institution and make sure prescribers comply with AWaRe classification when antimicrobials are prescribed.

7. Implement a mechanism to record the person who approves the "Watch" and "Reserve" group of antimicrobials.

8. All prescribers and nursing staff should adhere to the circular on the antimicrobial prescription chart. Attach an antimicrobial prescription chart (Annexure 2) to BHT of all patients who are prescribed antimicrobials, and all entries of antimicrobials should be done on this chart.

9. Appropriate samples should be taken for microbiological investigations prior to commencement of antimicrobials. However, do not delay the antimicrobial treatment in critically ill patients.

10. Antimicrobial stewardship teams should conduct regular antibiotic rounds at predetermined intervals depending on the feasibility of a particular institution.

11. The antimicrobial stewardship team should educate and train healthcare providers (prescribers, nurses, pharmacists, and medical laboratory technicians) on best practices for antimicrobial use, antimicrobial resistance, and the importance of stewardship efforts.

12. Monitor antimicrobial resistant pattern, antimicrobial utilization (AMU) and antimicrobial consumption (AMC) and feedback should be given to the relevant stakeholders. (Refer monitoring and evaluation, page 3).

6. Monitoring & Evaluation (M&E)

AMS team will monitor local AMR patterns, antimicrobial utilization (AMU) and antimicrobial consumption (AMC), according to World Health Organization (WHO) guidelines and the feedback should be given to the relevant stakeholders through the DTC and IPC committees or any other relevant forum.

- An established database should be available for entering, monitoring, and tracking necessary data.
- Each hospital should monitor the identified indicators and quarterly reports should be presented at the AMS team meetings, the DTC and IPC committee meetings.
- Annual returns of AMS programmes and audit reports should be sent to the national AMR focal point/ Deputy Director General of Laboratory Services by the AMS team through the head of the institution.
- Verification of implementation of AMS programmes should be performed by the national focal point for AMR. The number of hospitals with antimicrobial stewardship programmes and number of audit reports received at the AMR focal point from hospitals should be used for this purpose.
- These reports should be evaluated by the technical support group on optimizing the use of antimicrobials (Stewardship) and actions should be taken by the national action plan implementation and strengthening team (NAP-IST) for combating antimicrobial resistance with the national focal point for AMR.

  o **Monitoring Indicators**

Monitoring Indicators	Description of the Indicators
1. Antimicrobial Utilization Rates (AMU) (Refer "WHO methodology for point prevalence survey on antibiotic use in hospitals[1]")	
1.1 Adherence to the antimicrobial prescription chart through point prevalence surveys and audits	
The usage of antimicrobial prescription charts on patients on antimicrobials, as a percentage.	Antimicrobials prescribed on the antimicrobial prescription charts / Total number of patients on antimicrobials x 100%

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[1] https://www.who.int/publications/i/item/WHO-EMP-IAU-2018.01

Defined Daily Doses (DDD) consumed per 100(0) patient-days	DDD of an antimicrobial agent consumed in a period of time/ Total number of patient-days within that period of time x 100(0) to obtain data per 100(0) patient-days
Documentation of indication in the antimicrobial prescription chart as a percentage.	The number of antimicrobial prescription charts where indication for starting antimicrobials documented/ Total number of patients on antimicrobials x 100%
Documentation of antimicrobials reviews in the antimicrobial prescription chart as a percentage.	The number of antimicrobial prescription charts where reviews are documented in 48 hours / Total number of patients on antimicrobials x 100%

1.2 Adherence to the AWaRe circular through audits

Compliance on authorization; Percentage of Reserve antimicrobials approved by a consultant microbiologist	Number of 'Reserve' antimicrobials approved by the consultant microbiologists/Total Number of patients on 'Reserve' antimicrobials 100%
Percentage of Access, Watch and Reserve group of antimicrobials used in the hospital	Number of patients with Access-Watch-Reserve antimicrobials/Total Number of patients with antimicrobials 100%

1.3 Adherence to empirical and prophylactic treatment guidelines through compliance audits

Percentage of patients with an indication receiving empirical treatment with antibiotic(s) according to clinical guidelines	Number of patients with an indication for receiving empirical treatment with antibiotic(s) according to clinical guidelines/Total number of patients on antimicrobials X100%
Percentage of surgical antibiotic prophylaxis stopped within 24 hours.	Number of surgical antibiotic prophylaxis stopped within 24 hours/ Number of surgeries where prophylactic antibiotics were administered X 100 %

2.Antimicrobial consumption rate (AMC)
(Refer GLASS methodology for surveillance of national antimicrobial consumption)

2.1 Defined Daily Doses per 1000 patient days

DDD dispensed per 100(0) patient-days	DDD of an antimicrobial agent dispensed by the pharmacy in a period of time/ Total number of patient-days within that period of time x 100(0) to obtain data per 100(0) patient-days

3.Antimicrobial resistance rates AMR	
3.1 Resistance rates in blood stream infections (BSI) Multi drug resistant *Escherichia coli, Klebsiella pneumoniae, Pseudomonas* spp./*Pseudomonas aeruginosa, Acinetobacter* spp., *Salmonella* spp., *Staphylococcus aureus, Streptococcus pneumoniae, Enterococcus faecalis and Enterococcus faecium*	
Rate of carbapenem resistance in *Escherichia coli, Klebsiella pneumoniae* (or at least in Enterobacterales*), Pseudomonas* species and *Acinetobacter* species	e.g., Number of BSIs caused by carbapenem resistant Enterobacterales/ total number of BSI caused by Enterobacterales x 100%
Rate of vancomycin resistance in *E faecalis* and *E faecium* (VRE)	Number of BSI caused by VRE/ total number of *E faecalis* and *E faecium* BSI x 100%
Rate of penicillin resistant Streptococcus pneumoniae isolates	Number of penicillin resistant Streptococcus pneumoniae BSIs/ total number of BSI caused by *Streptococcus pneumoniae*
Institutional antibiogram	Annual antibiogram produced by the AMR surveillance
3.2 Health care associated infection rates	
Rate of health-care-associated *Clostridioides difficile* Infections	Number of health-care-associated C. difficile infections in a period of time / Total number of patient days within that period x 100 000
Rate of catheter associated UTIs in ICUs (quality indicator)	Number of catheter associated UTIs/ Total number of patient catheter days within that period x 100 000
Hospital acquired Methicillin Resistant *Staphylococcus aureus* (MRSA) bacteraemia rate (quality indicator)	Number of patients with hospital onset MRSA positive blood cultures in each year/ Total number of patient days in that year x 10000

Abbreviations:

AMC	Antimicrobial consumption
AMR	Antimicrobial resistance
AMU	Antimicrobial utilization
AWaRe	Access, Watch, Reserve
IT	Information Technology
MRSA	Methicillin Resistant *staphylococcus aureus*
NAP-IST	National action plan implementation and strengthening team
Spp.	Species
WHO	World health organization

Glossary:

Antibiotic: An agent or substance that is produced by or derived from a microorganism that kills or inhibits the growth of another living microorganism. Antibiotic substances that are synthetic, semi-synthetic, or derived from plants or animals are not antibiotics. In this document "antibiotic" refers to an antimicrobial agent with the ability to kill or inhibit bacterial growth.

Antimicrobial: An agent or substance derived from any source (microorganisms, plants, animals, synthetic or semi-synthetic) that acts against any type of microorganism, such as bacteria (antibacterial), mycobacteria (antimycobacterial), fungi (antifungal), parasite (anti-parasitic) and viruses (antiviral).

Antimicrobial resistance (AMR): Microorganisms such as bacteria, fungi, viruses, and parasites change when exposed to antimicrobial drugs such as antibiotics (= antibacterial), antifungals, antivirals, antimalarials and anthelmintics. As a result, the medicines become ineffective.

Antimicrobial stewardship (AMS): A coherent set of actions which promote the responsible use of antimicrobials. This definition can be applied to actions at the individual level as well as the national and global level, and across human health, animal health and the environment.

Antimicrobial stewardship programme (AMS programme): An organizational or systemwide health-care strategy to promote appropriate use of antimicrobials through the implementation of evidence-based interventions.

AWaRe Antibiotics are classified into Access, Watch and Reserve, considering the impact of different antibiotics and antibiotic classes on antimicrobial resistance, to emphasize the importance of their appropriate use.

References:

1) Antimicrobial stewardship programmes in health-care facilities in low- and middle-income countries. A practical toolkit. Geneva: World Health Organization; 2019. Licence: CC BYNC-SA 3.0 IGO.
2) Barlam T F, Cosgrove S E & Abbo L M et al (2016) SHEA/IDSA Clinical Practice Guidelines for Implementing an Antibiotic Stewardship Program. Clinical Infectious Diseases, Volume 62, Issue 10, 15 May 2016, Pages e51–e77, https://doi.org/10.1093/cid/ciw118
3) WHO Collaborating Centre for Drug Statistics Methodology, Guidelines for ATC classification and DDD assignment 2024. Oslo, Norway, 2023

Antimicrobial Prescription Chart -..Hospital

Patient name:				Allergies: Yes/No		
Age:	M/F:	Ward:		If yes, Drug/s:		
BHT:				Anaphylaxis/Urticaria/other:		

Indication for Antimicrobials:	CNS infection	CVS infection	GIT infection	RTI	Skin & soft issue infection	UTI	Infection of unknown origin	Sepsis
	Prophylaxis Surgical/Medical		Specify the prophylaxis:		Other/s		Final Infection Diagnosis	
Cultures taken before starting Antimicrobial	Blood	Urine	Sputum	CSF	Others, specify			

Antimicrobial review: Indication/ Trace culture/ Stop or de-escalate/ Duration (Initialed by the reviewing doctor)

1. Antimicrobial	Route	Dose	Frq	D 1	D 2	R/V	D 3	D 4	D 5	D 6	D 7	R/V	D 8	D 9	D 10	R/V
P E S																
A W R																

2. Antimicrobial	Route	Dose	Frq	D 1	D 2	R/V	D 3	D 4	D 5	D 6	D 7	R/V	D 8	D 9	D 10	R/V
P E S																
A W R																

3. Antimicrobial	Route	Dose	Frq	D 1	D 2	R/V	D 3	D 4	D 5	D 6	D 7	R/V	D 8	D 9	D 10	R/V
P E S																
A W R																

4. Antimicrobial	Route	Dose	Frq	D 1	D 2	R/V	D 3	D 4	D 5	D 6	D 7	R/V	D 8	D 9	D 10	R/V
P E S																
A W R																

5. Antimicrobial	Route	Dose	Frq	D 1	D 2	R/V	D 3	D 4	D 5	D 6	D 7	R/V	D 8	D 9	D 10	R/V
P E S																
A W R																

P- Prophylaxis, E- Empirical, S- Specific treatment   A- Access group, W- Watch group, R- Reserve group