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IAS Foundation Course on Integrated Antimicrobial Stewardship

For Interns, Postgraduate Medical Trainees and Faculty
A collaborative Initiative

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No.	Course Coordinator		Course Incharge	
1.	Dr Prasan Kumar Panda, Prof, Medicine (AMS committee member)	*(Signature present)*	Prof. Meenu Singh, Executive Director & CEO	*(Signature present)*
2.	Dr Puneet Damijha, Prof, Clinical Pharmacology (AMS committee member)	*(Signature present)*	Prof. Jaya Chaturvedi, Dean (A)	*(Signature present)*
3.	Dr Ambar Prasad, Asso Prof, Microbiology (Hospital Infection Control Officer)	*(Signature present)*		
4.	Dr Vanya Singh, Asst Prof, Microbiology (Diagnostic team member)	*(Signature present)*		

Core Team Developing Course Material (SASPI)	**Local team approving/ modifying Course Material (AIIMS Rishikesh)**
Prof. Sarita Mohapatra, President, SASPI (AIIMS, New Delhi)	**X**
Prof. Nusrat Shafiq, Ex-President, SASPI (PGIMER Chandigarh)	**Y**
Prof. Sumit Rai, Vice President, SASPI (AIIMS, Mangalagiri)	**Z**
Dr. Prasan Kumar Panda, Secretary, SASPI (AIIMS, Rishikesh)	
Dr. Binod Kumar Pati, Treasurer, SASPI (AIIMS, Patna)	

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Preamble

Antimicrobial Resistance (AMR) has been considered as a major global threat and is predicted to cause 10 million deaths each year by 2050, in wake of the increasing number of organisms which are becoming resistant to antimicrobials. So much is the impact of the problem that it received special mention in the Global Health Security Agenda. Being a contributing country to the Global Health Security Agenda, India is committed to tackle AMR.

Background

The Global Action Plan on AMR (GAP-AMR) was released in the year 2015. In alignment with the GAP-AMR, countries were asked to draft the National Action Plan (NAP). India's National Action Plan was drafted with this background. The important strategic priorities in the NAP-AMR were as follows:

(i) Improving awareness and understanding of AMR through effective communication, education and training.

(ii) Strengthening knowledge and evidence through surveillance.

(iii) Reducing the incidence of infection through effective infection prevention and control.

(iv) Optimizing the use of antimicrobial agents in health, animals and food.

(v) Promoting investments for AMR activities, research and innovations.

(vi) Strengthening India's leadership on AMR.

Optimizing the use of antimicrobial agents in health is directly a concern of healthcare professionals. Antimicrobial Stewardship Programs (AMSP) have proven instrumental in optimizing the use of antimicrobial agents and have been shown to reduce antimicrobial consumption, reduce cost of management of infections, decrease length of stay, improve clinical outcomes associated with infections and decrease the prevalence of resistant organisms. Isolatedly AMSP can't solve Indian AMR issues unless integrated with infection prevention stewardship (ISP) and diagnostic stewardship (DSP). It means each concerned person w.r.t. to AMR has to be a steward of IAS - Integrated Antimicrobial Stewardship.

Antimicrobial stewardship (ASP) is routinely undertaken in healthcare setups in the developed countries. In developing countries, however, ASP activities are rather patchy. Some public sector hospitals in India, such as PGIMER and AIIMS, have developed models taking into consideration practice settings of our healthcare setups and resources. There is, however, a need to expand the ongoing programs and create a team of personnel who not only participate in ASP but also initiate such activities

in the healthcare setups they subsequently get associated with. There are some online training courses from WHO, CDC, and others available for priming healthcare professionals. However, these have limitations of applicability for the practice related situations they talk about are very dissimilar from those of ours. Besides they leave a lot for detailing how and why of ASP in the Indian context.

AMS is a multidisciplinary activity with important roles being played by clinicians, pharmacologists, microbiologists, Nurses, Pharmacists, and health administration specialists playing their parts. Orientation to such an approach requires initiation at an early stage and training which must be tuned to Indian practice settings.

The Course coordinator appointed for the purpose, discussed the idea with faculty from other AIIMS, as well as actively involved faculty from PGIMER Chandigarh, AIIMS Rishikesh, AIIMS New Delhi, JIPMER Puducherry, AIIMS Patna, AIIMS Bhopal, AIIMS Mangalagiri, and the idea was well received. It was suggested that faculty at the above-mentioned institutions will jointly plan out the course, oversee its delivery and further modifications as may be necessary. The course content was prepared by the AIIMS Patna team in collaboration with the above Institutes of National Importance (INIs) through multiple online meetings. The course content is copyrighted under the Society of Antimicrobial Stewardship Practices (SASPI, a registered society **[UK0600872022008924]** for public welfare to control AMR) in India. However, necessary local modifications can be done with respect to local settings, practices, and the coordinator's proficiencies towards IAS practices.

Aim

To create awareness about AMR and provide skills to Interns, Junior and Senior Residents, & Faculty which will help them to play their role in containing AMR through antimicrobial stewardship, infection prevention and control, and diagnostic stewardship practices.

Learning objectives

A. To impact knowledge about the extent and impact of AMR and the approaches used globally to contain the same

B. To provide skills to

(i) Prescribe antimicrobials rationally

(ii) Develop and follow guidelines for managing infections

(iii) Incorporate infection prevention methods in daily medical life

(iv) Incorporate diagnostic stewardship in day-to-day practice

(v) Do a prospective audit and feedback

C. To provide skills to

(i) Work in a multidisciplinary team for attaining above objectives

(ii) Measure antimicrobial use, identify low-hanging targets of intervention, and devise strategies to contain the same

(iii) Measure the impact of infection prevention strategies

D. To provide necessary skills to the participants for initiating similar exercises in the healthcare setups where they work in the future.

Target population

Interns, Resident doctors and Faculty

Each training batch will include:

- 50% participants from clinical departments (priority to high-antibiotic-use disciplines)
- 25% from microbiology
- 25% from pharmacology

Syllabus

1. The course will be conducted at least once in the year, mostly during WAAW period.
2. **Course duration**: 04 half days (14 hours). The dates and time will be announced by the Course coordinator.
3. The course module is designed so that the participants are exposed both to the knowledge as well as skill domain of stewardship.
4. **Participants**: Not more than 100 participants in a single session. Attendance will be strictly mandatory. Participants must come with a smart phone and laptop for optimum benefit.
5. **Costs**: Course will be free for participants. SASPI will not take any cost from local institution, however, refreshments and hard copy materials and infrastructure will be provided by the institution.
6. **Resource persons**: The resource persons engaged in this are from multidisciplinary background representing Clinicians, Clinical Microbiologists, Infection preventionists and Clinical Pharmacologists. External as well as internal resource persons with impeccable work on integrated stewardship from INIs have developed the course and will co-ordinate for right delivery of the course content in the initial few phases. Attempts shall be made to create resource faculty from within the institute; during initial sessions, SASPI may be contacted for external experts for training of trainers

(TOT).

7. **Outline of the course material**

DAYS	TOPICS
Day 1	❖ Introduction & inauguration
	❖ Core concept of integrated antimicrobial stewardship - DIA model
	❖ Diagnostic stewardship - Sampling, Transport, Processing, Reporting
	❖ Generating Local Antimicrobial policy & it's bedside uses
	❖ Bedside Medicine (IPD case scenario) - Integrated approach
	❖ Bedside Medicine (IPD case scenario) - ID meets and quality control
Day 2	**Infection prevention stewardship**
	• Hand hygiene
	• Hospital Source control
	• Biomedical Waste management
	• Needle stick injury
	• Standard and Transmission based precaution
	• Adult Vaccination including HCW
	• Bundle care
Day 3	**Antimicrobial Stewardship**
	• Prospective audit and feedback
	• IV to Oral switch / Stop order / Pre-authorisation / Redundancy alert / OPAT / Medical & Surgical Prophylaxis / Other Low-Hanging fruits
	• Pharmacokinetics / Pharmacodynamics utility
	• Measurement of Process and outcome indicators
	• Integrating Nursing, Pharmacist, and community stewardship
Day 4	Preparing own model of integrated stewardship in own Dept and submitting to course coordinator for assessment

8. Teaching methodology

- Didactic lectures
- Small group discussions/exercises
- Case based examples and discussion
- Home-work with evaluation
- Role play
- Panel discussions

9. Schedule of test: At the end of training on day 3. For unsuccessful participants, the next foundation course will be attended by the participant and re-evaluated.

Total teaching hours: Sixteen hours.

- **Day 1: Three hours and thirty minutes**
  (Including a break of 15 minutes)
- **Day 2: Three hours and thirty minutes**
  (Including a break of 15 minutes)
- **Day 3: Three hours and thirty minutes**
  (Including a break of 15 minutes)
- **Day 4: Three hours and thirty minutes**
  (In own Dept with stewardship faculty I/C and other colleagues)

Assessment method

1. Assessment will be done after completion of the course on day 3 & 4.
2. Assessment of the course will be done based on the following
   a. Pre and post course evaluation
   b. Participants' feedbacks
   c. Number of participants acquiring necessary skills at the end of the course by submitting dept IAS model
3. Participants will be assessed on the basis of skills for
   a. Making decisions regarding antimicrobials for a given patient
   b. Infection prevention practices
   c. Measurement of performance indicators of a program
   d. Designing an empiric regimen based on a given situation and antibiogram provided
   e. Diagnostic stewardship practices

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Roles and Responsibilities

Society of Antimicrobial Stewardship PractIces (SASPI) will:

- Serve as the technical and training body for this program
- Provide standardized course curriculum, faculty if required for TOT, and training methodology
- Ensure post-training monitoring and feedback
- Guide trained faculty to roll out internal training for junior residents, nursing staff, and faculty during WAAW
- Provide certification jointly with Local Institute

Local Institute (Insert Institute Name) will:

- Nominate Course Coordinators and provide administrative support
- Modify the course content as suitable to own settings
- Organize logistics including venue, AV setup, print materials, and refreshments
- Ensure attendance and mobilization of participants
- Facilitate internal rollout post-training with SASPI mentorship
- Provide infrastructure/monetary support at no cost to SASPI

Result

1) The result will be tailored to score in percentage.
2) Securing 75% will be the cut off criteria to issue participant pass certificates.
    a) 75% or more (Competent)
    b) < 75% (Unacceptable) - the participant has to re-enroll in the course
3) Participants securing > 75% score will be given a certificate signed by the Dean/Director of the local institute, course co-ordinators, and SASPI secretary.