MINISTRY OF PUBLIC HEALTH OF UKRAINE
National Pirogov Memorial Medical University, Vinnytsya

“AGREED”

Head of Department of Tuberculosis,
Clinical Immunology and Allergy

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A self-study module for medical students

Learning discipline	Phthisiology
Module №1	Phthisiology
Thematic module 4	Clinical management of tuberculosis
Topic	International standards for tuberculosis 2 control, 3rd edition.
Course	4th
Faculty	General medicine

The WHO European Region faces important challenges in its struggle against TB. The major constraints are:

the high rate of multidrug-resistant TB (MDR-TB), mostly in the countries of the former USSR;

the rapid growth of the HIV epidemic in eastern countries and central Asia and consequently the sharp increase in HIV-related TB;

the need to reform the health sector to include closer involvement of primary health care in TB control;

the still limited political and financial commitment to TB control;

lack of advocacy, communication and social mobilization (WHO).

The TB Control Program makes progress towards this mission by:

Collect, analyze and report surveillance data

Develop effective TB control policies

Provide consultation and technical assistance to LPHAs and clinical providers

Provide case management oversight of active TB disease cases to ensure appropriate treatment completion, and thorough contact investigations of infectious cases of TB disease

Provide TB medications and approved treatment regimens for all persons afflicted with TB infection or disease

Coordinate services for refugees and immigrants who enter Iowa with a history of TB infection or disease to ensure they receive clinically appropriate treatment.

HCWs refer to all paid and unpaid persons working in health-care settings who have the potential for exposure to M. tuberculosis through air space shared with persons with infectious TB disease. Part time, temporary, contract, and full-time HCWs should be included in TB screening programs. All HCWs who have duties that involve face-to-face contact with patients with suspected or confirmed TB disease (including transport staff) should be included in a TB screening program.

Fundamentals of TB Infection Control

One of the most critical risks for health-care–associated transmission of M. tuberculosis in health-care settings is from patients with unrecognized TB disease who are not promptly handled with appropriate airborne precautions or who are moved from an AII room too soon (e.g., patients with unrecognized TB and MDR TB) . In the United States, the problem of MDR TB, which was amplified by health-care–associated transmission, has been substantially reduced by the use of standardized antituberculosis treatment regimens in the initial phase of therapy, rapid drug-susceptibility testing, directly observed therapy (DOT), and improved infection-control practices. DOT is an adherence-enhancing strategy in which an HCW or other specially trained health professional watches a patient swallow each dose of medication and records the dates that the administration was observed. DOT is the standard of care for all patients with TB disease and should be used for all doses during the course of therapy for TB disease and for LTBI whenever feasible.

All health-care settings need a TB infection-control program designed to ensure prompt detection, airborne precautions, and treatment of persons who have suspected or confirmed TB disease (or prompt referral of persons who have suspected TB disease for settings in which persons with TB disease are not expected to be encountered). Such a program is based on a three-level hierarchy of controls, including administrative, environmental, and respiratory protection (86,107,108).

The following are HCWs who might be included in a TB screening program:

Administrators or managers
Bronchoscopy staff
Chaplains
Clerical staff
Computer programmers
Construction staff
Correctional officers
Craft or repair staff
Dental staff
Dietician or dietary staff
ED staff
Engineers
Food service staff
Health aides
Health and safety staff
Housekeeping or custodial staff
Homeless shelter staff
Infection-control staff
ICU staff
Janitorial staff
Laboratory staff
Maintenance staff
Morgue staff
Nurses
Outreach staff
Pathology laboratory staff
Patient transport staff, including EMS
Pediatric staff
Pharmacists
Phlebotomists
Physical and occupational therapists
Physicians (assistant, attending, fellow, resident, or intern), including
— anesthesiologists
— pathologists
— psychiatrists
— psychologists
Public health educators or teachers
Public safety staff
Radiology staff
Respiratory therapists
Scientists
Social workers
Students (e.g., medical, nursing, technicians, and allied health)
Technicians (e.g., health, laboratory, radiology, and animal)
Veterinarians
Volunteers

2. The aim of the module:

The main purpose of this module is development of practical skills in the organization of TB control in health care settings and beyond.

Students should be able to:

1. Recognize persons at Highest Risk for Exposure to and Infection with M. tuberculosis.
2. Identify Persons Whose Condition is at High Risk for Progression From LTBI to TB Disease.
3. Study the Characteristics of a Patient with TB Disease That Increase the Risk for Infectiousness.
4. Understant how to minimize the Risk for Health-Care–Associated Transmission of M. tuberculosis.
5. Provide Administrative, Environmental and Respiratory-Protection Control. .
6. Use of Risk Classification to Determine Need for TB Screening and Frequency of Screening HCWs.
7. Organize TB Airborne Precautions.

1. Interdisciplinary integration

Name of discipline	Necessary skills
Human Anatomy	Nervous System. Meninges and spinal cord. Pathways of the brain and spinal cord. The structure of the cranial nerves. Features of the blood supply of the brain and spinal cord. Lymphatic vessels of the head and neck.
Pathological Physiology	Inflammation. Tuberculous inflammation. Exudative and productive processes. The blood–brain barrier.
Pathological Anatomy	Morphological manifestations of tuberculous inflammation in organs and tissues, residual tuberculous changes.
General and Clinical Pharmacology	TB chemotherapy, classification, dosage, methods of administration. Pharmacokinetics of antituberculosis drugs. Adverse reactions to antibacterial drugs, prevention and elimination.
Propedeutics of Internal Medicine	Methods of physical examination of patients. Diagnostic value of epidemiological history, physical methods of examination of patients, puncture of pleural cavity, microscopic examination of fluid for M. tuberculosis.
Endocrinology	Diabetes mellitus, insulin and hypoglycemic medicines
Obstetrics	FDA Classification of medicines according to pregnancy category

3. Theoretical questions for preparing to the class:

1. Describe Medical Settings in Correctional Facilities.

2. Identify practical aspects of Home-Based Health-Care and Outreach Settings.
3. How to Identify of Source Cases and Recording of Drug-Susceptibility Patterns?
4. Cough-Inducing and Aerosol-Generating Procedures.
5. Estimating the Infectiousness of a TB Patient.
6. Discharge to Home of Patients with Suspected or Confirmed TB Disease.
7. Describe the Types of Respiratory Protection for TB.
8. Review the Cleaning, Disinfecting, and Sterilizing Patient-Care Equipment and Rooms.
9. Notifications and Continuity of TB Care for TB Patients and Contacts Who Move Internationally.
10. List the criteria to meet the definition of a TB outbreak.
11. Identify Who is Responsible for Detecting and Responding to TB Outbreaks?

4. Practical tasks

1. List the four priority activities of TB prevention and control.
2. Describe the activities associated with TB case management.
3. Describe directly observed therapy (DOT).
4. Discuss TB treatment adherence strategies.
5. Explain considerations for TB case management in special settings.

Examples of Open-Ended Questions for Patient Assessment

- What are some difficulties you have taking medicine?
- How do your family members or close friends feel about your TB?
- How do you feel about taking your TB medication?
- How severe do you think your illness is?
- What problems has your illness caused for you?
- What are the most important results you hope to get from this treatment?
- What do you know about TB?
- What causes TB?
- What do you think TB does to your body?
- What treatment do you think you should receive for TB?
- What caused you to go to the doctor who diagnosed your TB?
- What did you think when you were told you had TB?
- How do you think you got TB?

References

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Self-study module approved at the meeting of the department
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