# FELLOWSHIP IN TUBERCULOSIS AND RESPIRATORY CARE NURSING

#### **ABOUT THE COURSE:**

Malla Reddy School of Nursing Science and Technology believes that registered nurses need to be trained in Tuberculosis and respiratory care nursing in clinical and community settings in order to provide competent care to patients and enhance their quality of life. Nurses play vital role in prevention, promotion, curative and rehabilitative care. Expanding roles of nurses and advances in technology necessitate additional training to prepare them for effective participation in providing such vital role. This Fellowship program is designed for nurses to enhance their knowledge and skills towards Tuberculosis and respiratory care Nursing.

This fellowship course is developed to help the student to recognize the etiology, pathophysiology, symptomatology, diagnostic measures, and management of patients with malignant conditions affecting various systems. The course will further help the graduates to acquire knowledge and skills in providing comprehensive nursing care to such patients and attempts to explore and expand nursing knowledge through nursing research.

#### **OBJECTIVES:**

The graduates of fellowship students will be able to:

- To enhance the clinical knowledge and skills of nurses in the diagnosis, treatment, and care of patients with tuberculosis and other respiratory diseases.
- To equip nurses with the ability to provide evidence-based care and effectively manage TB, including drug-resistant forms.
- To develop competencies in infection prevention and control (IPC) in TB and respiratory settings.
- To promote patient-centered care, including counseling, adherence support, and community engagement.
- To enable nurses to participate in public health initiatives and national TB control programs.

ELGIBILITY: Registered BSc Nursing in India or equivalent.

#### DURATION: 52 Weeks or One Academic Year

#### **COURSE DESCRIPTION**

The course is designed to prepare registered B.Sc nurses with specialized knowledge, skills and attitude in providing advance quality care to critically ill patients and their families at all the three levels of care.

#### **EVALUATION**

The examination will be conducted by school of nursing science and technology, Malla Reddy Vishwavidhyapeeth deemed to be university.

#### CRITERIA TO APPEAR THE EXAM

- 80% attendance in theory
- 100% attendance in practical

#### **CRITERIA TO PASS**

- In order to pass a candidate should obtain 50% in theory and 50% in practical separately
- A candidate should get 50% in internal assessment.

#### AWARD OF CERTIFICATE

Certificate will be awarded by Malla Reddy Vishwavidhyapeeth deemed to be university

S.No	COURSE	SUBJECTS	THEORY	LAB	CLINICAL	TOTAL
	CODE					
1		Basic Nursing	60	20	120	200
		for Tuberculosis				
		and respiratory				
		care (No Exam)				
2		Tuberculosis	80	20	300	400
		and respiratory				
		care Nursing – I				
3		Tuberculosis	80	20	300	400
		and respiratory				
		care Nursing –				
		II				

# BASIC NURSING FOR TUBERCULOSIS AND RESPIRATORY CARE

Theory: 60 hours Lab: 20 hours Practical: 120 hours

Unit	Ho	Learning	Content	Teaching	Assessment
	urs	objectives		Learning	Methods
				Activity	
Unit I	20	Understand	Applied Anatomy & Physiology	• Lectures	• Written
		the structure	• Tuberculosis (pulmonary and	<ul> <li>Case studies</li> </ul>	exams
		and function	extrapulmonary, drug-resistant	• Problem-	<ul> <li>Case study</li> </ul>
		of the	TB)	based	analysis
		respiratory	• Obstructive lung diseases	learning	• Viva voce
		system.	(asthma, COPD, bronchiectasis,	• Group	• OSCE
		• Explain	cystic fibrosis)	discussions	
		pathophysiol	• Restrictive lung diseases	•	
		ogy of	(interstitial lung diseases,	Demonstratio	
		common	neuromuscular disorders, chest	n of	
		respiratory	wall deformities)	diagnostic	
		disorders.	• Respiratory infections	tools	
		• Identify	(pneumonia, influenza, fungal		
		signs,	infections, non-tuberculous		
		symptoms,	mycobacteria)		
		diagnosis,	• Pulmonary vascular diseases		
		and treatment	(pulmonary embolism, pulmonary		
		of	hypertension)		
		tuberculosis	• Sleep-disordered breathing		
		and other	(obstructive sleep apnea, central		
		respiratory	sleep apnea)		
		diseases.	• Lung cancer and other thoracic		
		• Apply	malignancies		
		intection	• Pleural diseases (effusion,		
			A sute magningtown distance		
		1D provention	• Acute respiratory distress		
		stratogios	Syndrome (ARDS)		
		strategies.	• Iransmission, pathogenesis, and		
			tubaroulogic infaction		
			• Tuberculosis infection		
			• Tuberculini skill testilig (151) and		
			$(IGR A_s)$		
			Diagnosis of latent TR infection		
			• Diagnosis of latent 1D intection		
			(microscopy culture molecular		
			tests imaging)		
			<ul> <li>Pharmacology of anti-tuberculosis</li> </ul>		

			<ul> <li>drugs (first-line, second-line, drug-resistant TB treatment)</li> <li>Management of drug-susceptible and drug-resistant tuberculosis</li> <li>TB infection control and prevention strategies</li> <li>Programmatic management of drug-resistant TB (PMDT)</li> <li>TB in special populations (HIV co-infection, children, pregnant women elderly)</li> </ul>		
Unit II	10	<ul> <li>Review pharmacologi cal action and side effects of respiratory drugs.</li> <li>Understand principles of</li> </ul>	<ul> <li>Pharmacology</li> <li>Review</li> <li>Bronchodilators</li> <li>corticosteroids,</li> <li>antibiotics,</li> <li>anti-tuberculosis drugs</li> <li>Mucolytics</li> </ul>	<ul> <li>Interactive lectures</li> <li>Drug chart reviews</li> <li>Group presentations</li> <li>Demonstratio</li> </ul>	<ul> <li>MCQs</li> <li>Drug administrati on return demonstrati on</li> <li>Oral quiz</li> </ul>
		<ul> <li>drug administratio</li> <li>n.</li> <li>Describe</li> <li>nurse's role in</li> <li>drug</li> <li>management.</li> </ul>	• Pulmonary vasodilators. Principles of drug administration, role of nurse and care of drugs	ns	
Unit III	10	<ul> <li>Provide psychosocial support to patients and families.</li> <li>Identify stressors and coping strategies.</li> <li>Understand end-of-life issues and grief management.</li> </ul>	<ul> <li>Psychosocial and Family Support</li> <li>Communication with patients and families</li> <li>Stress management for patients and caregivers</li> <li>End-of-life care and decision-making</li> <li>Grief, loss, and palliative approach</li> </ul>	<ul> <li>Role play</li> <li>Group discussion</li> <li>Patient interviews</li> <li>Audio- visual materials</li> </ul>	<ul> <li>Reflective journals</li> <li>Participatio n in role play</li> <li>Case presentation</li> </ul>
Unit IV	10	<ul> <li>Perform primary and secondary assessments.</li> <li>Monitor vital signs</li> </ul>	<ul> <li>Basic Assessment of the</li> <li>Primary and secondary assessment (ABCDE)</li> <li>Monitoring vital signs and level of consciousness</li> </ul>	<ul> <li>Demonstratio</li> <li>n</li> <li>Simulation</li> <li>practice</li> <li>Bedside</li> </ul>	<ul> <li>Skill</li> <li>checklist</li> <li>OSCE</li> <li>Logbook</li> <li>assessment</li> </ul>

		<ul> <li>and GCS.</li> <li>Conduct</li> <li>head-to-toe</li> <li>and system-</li> <li>wise</li> <li>assessments.</li> <li>Document</li> <li>input-output</li> <li>and assess</li> <li>non-verbal</li> <li>pain.</li> </ul>	<ul> <li>Head to Toe Assessment</li> <li>System wise Assessment</li> <li>Glasgow Coma Scale (GCS)</li> <li>Input-output charting</li> <li>Pain assessment in non-verbal patients</li> </ul>	teaching • Clinical rounds	
Unit V	10	<ul> <li>Understand effective communicati on process.</li> <li>Develop interpersonal skills.</li> <li>Collaborate with healthcare team.</li> <li>Break bad news and offer counseling.</li> </ul>	<ul> <li>Communication skills and IPR</li> <li>Process and methods</li> <li>Establishing and maintaining good IPR &amp; communication with family, staff and colleagues</li> <li>Multidisciplinary team and role of nurse</li> <li>Breaking bad news</li> <li>Guidance and counseling</li> </ul>	<ul> <li>Role play</li> <li>Group exercises</li> <li>Peer feedback</li> <li>Simulation scenarios</li> </ul>	<ul> <li>Peer and teacher evaluations</li> <li>Communica tion skills checklist</li> <li>Reflective writing</li> </ul>

# TUBERCULOSIS AND RESPIRATORY CARE NURSING - I

## Theory: 80 hours Lab: 20 Hours Practical: 300 hours

Unit Ho	Learning	Content	Teaching	Assessment
urs	objectives		Learning	Methods
			Activity	
Unit - 10 I	<ul> <li>Describe the historical evolution of TB and respiratory care nursing.</li> <li>Explain principles and scope of TB and respiratory care nursing.</li> <li>Identify critical care unit setup and equipment use</li> </ul>	<ul> <li>Introduction to Tuberculosis and respiratory care Nursing <ul> <li>Historical review</li> <li>Concepts of Tuberculosis and respiratory care Nursing</li> <li>Principles of Tuberculosis and respiratory care Nursing</li> <li>Scope of Tuberculosis and respiratory care Nursing</li> <li>Scope of Tuberculosis and respiratory care Nursing</li> <li>Critical care unit set up including equipment, supplies, use and care of various type of monitors, ventilators</li> <li>Flow sheets</li> </ul> </li> </ul>	<ul> <li>Lecture with visual aids</li> <li>Equipment demonstration</li> <li>ICU visit or video tour</li> <li>Discussion on scope</li> </ul>	<ul> <li>MCQs</li> <li>Viva</li> <li>Equipment identificatio n test</li> <li>Practical logbook</li> </ul>
Unit - 20	Assess	Concept of Holistic care applied to	• Group	Reflective
II	psychosocial	Tuberculosis and respiratory care	discussion	writing
	effects of ICU on patients and families. • Apply holistic nursing practices. • Recognize and manage caregiver burnout.	<ul> <li>Nursing practice</li> <li>Psychophysiological &amp; Psychosocial impact of critical care unit on patients:-</li> <li>Risk factors, Assessment of patients, Critical care psychosis, Prevention &amp; nursing care for patients affected with Psychophysiological &amp; Psychosocial problems of critical care unit, Caring for the patient's family, family teaching</li> <li>The dynamics of healing in critical care unit:-</li> <li>Dynamics of touch Belaxation</li> </ul>	<ul> <li>Role play</li> <li>Guided imagery &amp; music therapy sessions</li> <li>Interactive lectures</li> </ul>	<ul> <li>Case studies</li> <li>Group presentation</li> <li>Self- assessment checklist</li> </ul>

Unit - III	10	<ul> <li>Understand the physiology and theories of pain.</li> <li>Assess and manage pain and sedation in critically ill patients.</li> </ul>	<ul> <li>Music therapy, Guided Imagery</li> <li>Stress and burnout syndrome among health team members</li> </ul> Pain Management <ul> <li>Pain &amp; sedation in critically ill</li> <li>Theories of pain, Types of pain</li> <li>Pain assessment, Systemic responses to pain Pain management</li> <li>Sedation in critically ill patients, Placebo effect</li> </ul>	<ul> <li>Bedside teaching</li> <li>Demonstrati on of pain assessment</li> <li>Lecture</li> <li>Simulation</li> </ul>	• OSCE • Written test • Case- based discussion • Chart reviews
Unit IV	10	<ul> <li>Understand ICU-related infections.</li> <li>Apply standard precautions and sterilization techniques.</li> <li>Describe MRSA and staff prophylaxis.</li> </ul>	<ul> <li>Infection control in intensive care</li> <li>Nosocomial infection in intensive care unit; methyl resistant staphylococcus aureus(MRSA).</li> <li>Disinfection, Sterilization, Standard Precautions, Prophylaxis for staff</li> </ul>	<ul> <li>Demonstrati on</li> <li>Infection control drill</li> <li>Case scenario discussion</li> <li>Use of PPE in simulation</li> </ul>	<ul> <li>Skill checklist</li> <li>Practical evaluation</li> <li>Infection control quiz</li> <li>Observation checklist</li> </ul>
Unit V	10	<ul> <li>Understand and apply the steps of the nursing process.</li> <li>Develop nursing care plans.</li> </ul>	<ul> <li>Introduction to Nursing Process</li> <li>Assessment</li> <li>Nursing diagnosis</li> <li>Nursing care plan</li> <li>Implementation</li> <li>Evaluation</li> </ul>	<ul> <li>Case studies</li> <li>Care plan writing</li> <li>Interactive lectures</li> <li>Clinical assignments</li> </ul>	<ul> <li>Nursing process documentati on</li> <li>OSCE</li> <li>Evaluation of care plans</li> </ul>
Unit VI	10	<ul> <li>Assess and manage nutritional needs of TB and respiratory patients.</li> <li>Understand TPN and enteral</li> </ul>	<ul> <li>Nutritional Management in the tuberculosis and respiratory care patient</li> <li>Assessing nutritional status of patient</li> <li>Implications of under nourishment in Tuberculosis and respiratory ill patients</li> <li>Fluid &amp; electrolyte management</li> </ul>	<ul> <li>Nutritional chart preparation</li> <li>Diet plan workshops</li> <li>Clinical rounds</li> <li>Demonstrati on of</li> </ul>	<ul> <li>Case- based</li> <li>evaluations</li> <li>Nutritional</li> <li>plan</li> <li>submission</li> <li>Viva</li> <li>Clinical</li> <li>observation</li> </ul>

		feeding techniques.	<ul> <li>Administering nutrition support,</li> <li>Therapeutic diet - Various disease conditions, Total parenteral and enteral nutrition</li> </ul>	feeding techniques	
Unit VII	10	<ul> <li>Provide spiritual and emotional care to dying patients.</li> <li>Support families during grief.</li> <li>Understand ethical and procedural aspects of organ donation.</li> </ul>	<ul> <li>Care of dying patients</li> <li>Spiritual support to the dying</li> <li>Grief and grieving process Bereavement support</li> <li>Organ donation &amp; Counselling</li> <li>Care of dead</li> </ul>	<ul> <li>Role play</li> <li>Panel discussions</li> <li>Counseling demonstration</li> <li>Documentar y viewing</li> </ul>	<ul> <li>Reflective journal</li> <li>OSCE</li> <li>Case discussion</li> <li>Peer assessment</li> </ul>

# TUBERCULOSIS AND RESPIRATORY CARE NURSING – II

### Theory: 80 hours Lab: 20 Hours Practical: 300 hours

Unit	Ho urs	Learning objectives	Content	Teaching Learning	Assessment Methods
Unit- I	10	<ul> <li>Understand and perform diagnostic and therapeutic interventional pulmonology procedures.</li> <li>Interpret indications, techniques, and complication s of various bronchoscopi c procedures.</li> </ul>	<ul> <li>Interventional Pulmonology</li> <li>Diagnostic and therapeutic bronchoscopy (exible and rigid bronchoscopy)</li> <li>Virtual Bronchoscopy simulation</li> <li>Bronchoalveolar lavage(BAL)</li> <li>Trans bronchial lung biopsy (TBLB) with uoroscopy guidance</li> <li>Endobronchial biopsy (EBB)</li> <li>Endobronchial needle aspiration (EBNA) &amp; brush cytology</li> <li>Endobronchial ultrasound guided trans bronchial needle aspiration of mediastinal lymph nodes and tumours(EBUS-TBNA) including Elastography</li> </ul>	<ul> <li>Activity</li> <li>Hands-on simulation</li> <li>Live/recorde d procedure demonstrati ons</li> <li>Clinical postings in bronchoscop y suite</li> <li>Small group tutorials</li> </ul>	• OSCE • Skills checklist • Viva • Logbook/pr actical evaluation

	10	• Gain skills in simulation and equipment handling.	<ul> <li>Endoscopic ultrasound with bronchoscope guided ne needle aspiration (EUS-B-FNA)</li> <li>Debulking procedures including coring with rigid bronchoscopy, cryoablation and cryorecanalization, electrocoagulation therapy and argon plasma coagulation</li> <li>Placements of metallic and silicon stents for central airway obstruction, spigots and blockers for hemoptysis</li> <li>Localization of alveolopleural and bronchopleural stulae</li> <li>Foreign body removal</li> <li>Trans bronchial Cryo lung biopsy</li> <li>Radial endobronchial ultrasound and uoroscopic guided biopsy of lung nodules</li> </ul>		
Unit-	10	• Manage	<b>Respiratory Critical Care</b>	• ICU	• Case
II		critically ill respiratory patients including ventilatory support. • Understand infection control and sepsis management. • Apply ultrasonograp hy and invasive monitoring techniques. • Address palliative care needs in end-stage lung diseases.	<ul> <li>Management of critically ill medical patients including non-invasive and invasive mechanical ventilation</li> <li>Management of sepsis and hospital acquired infections</li> <li>Difficult airway management: bronchoscopy guided intubation, emergency cricothyroidotomy and tracheostomy</li> <li>Clinical applications of Capnometry in ventilated patients.</li> <li>Non-invasive ventilation strategies: CPAP, BPAP, AVAPS, ASV</li> <li>Evaluation of difficult to wean patients on ventilators</li> <li>Percutaneous dilating tracheostomy in critical care units</li> <li>Point of care ultrasonography of the lungs and the heart (POCUS)</li> <li>Compression ultrasonography and</li> </ul>	rotation • Simulation- based airway and ventilation management • Bedside ultrasonogra phy sessions • Case-based discussions	presentation • Objective structured practical exam (OSPE) • Clinical performanc e evaluation • Written test

			<ul> <li>thoracic ultrasonography</li> <li>Invasive arterial monitoring and central venous catheter insertion</li> <li>Palliative therapy for end stage lung diseases and metastatic lung cancer</li> </ul>		
Unit - III	10	<ul> <li>Identify and diagnose thoracic malignancies through various biopsy methods.</li> <li>Evaluate solitary pulmonary nodules.</li> <li>Correlate clinical findings with radiology and pathols and</li></ul>	<ul> <li>Thoracic Oncology</li> <li>Tissue Diagnosis of lung and thoracic malignancies</li> <li>Evaluation of Solitary Pulmonary Nodule</li> </ul>	<ul> <li>MDT meeting participation</li> <li>Image- based case studies</li> <li>Demonstrati on of biopsy techniques</li> <li>Pathology- radiology integration seminars</li> </ul>	<ul> <li>Clinical case analysis</li> <li>Viva</li> <li>MDT discussion performanc e</li> <li>Radiology/p athology interpretatio n tests</li> </ul>
Unit- IV	5	<ul> <li>Interpret advanced pulmonary function and radiology results.</li> <li>Manage MDR-TB and sleep-related breathing disorders.</li> <li>Use and evaluate oxygen therapy devices.</li> </ul>	<ul> <li>General Pulmonology</li> <li>Interpretation of pulmonary function tests (including spirometry, forced oscillometry, DLCO, cardiopulmonary exercise testing, arterial blood gas analysis)</li> <li>Interpretation of thoracic radiology (HRCT Thorax) in management of pulmonary diseases</li> <li>Management of MDR tuberculosis.</li> <li>Oxygen delivery devices including domiciliary and long term oxygen therapy</li> <li>Multi-disciplinary discussion meeting for diagnosis of interstitial lung diseases</li> <li>Evaluation and management of sleep related breathing disorders (OSA, CSA, OHS)</li> </ul>	<ul> <li>PFT and ABG demo sessions</li> <li>HRCT interpretatio n classes</li> <li>Case discussions on MDR-TB</li> <li>Equipment demonstrati on</li> <li>Sleep study exposure</li> </ul>	<ul> <li>ABG and PFT interpretatio n exam</li> <li>HRCT spotter test</li> <li>Sleep disorder case review</li> <li>OSPE</li> </ul>

## **Research Activity:**

An independent research is to be carried out by the student.

#### ESSENTIAL TUBERCULOSIS AND RESPIRATORY CARE NURSING SKILLS

#### I. Procedures Observed

- Infection Control Procedures
- Sputum Collection & Handling
- Medication Administration and Adherence Monitoring
- Respiratory Assessment
- Oxygen Therapy Administration
- Chest Physiotherapy & Airway Clearance
- Patient Education and Counseling
- Monitoring and Reporting

#### **II. Procedures Assisted**

- Thoracentesis Assistance
- Bronchoscopy Assistance
- Chest Tube Insertion and Management
- Mechanical Ventilation Initiation
- Endotracheal Intubation
- Sputum Induction
- Pleural Biopsy
- Tracheostomy Care and Suctioning

#### **III. Procedure Performed**

#### 1. Vital Signs Monitoring

- Check temperature, respiratory rate, pulse, and blood pressure.
- Monitor for fever, tachypnea, or hypotension (signs of infection or deterioration).

#### 2. Oxygen Therapy Administration

- Set up and adjust nasal cannula, face mask, or non-rebreather mask.
- Monitor SpO<sub>2</sub> (oxygen saturation) using a pulse oximeter.
- Ensure correct flow rates and humidification.

## 3. Sputum Collection for AFB (Acid-Fast Bacilli)

- Educate patient on deep coughing technique.
- Collect early morning sputum samples.
- Label and send to lab with proper precautions (biohazard handling).

#### 4. Directly Observed Therapy (DOT)

- Administer TB medications (e.g., isoniazid, rifampicin).
- Watch the patient swallow each dose.
- Document adherence and report missed doses.

#### 5. Medication Administration

- Administer prescribed anti-TB and respiratory drugs (oral, IV, inhaled).
- Check for side effects and adverse reactions.
- Monitor liver function if on TB drugs.

#### 6. Nebulization

- Prepare nebulizer solution (e.g., bronchodilators).
- Instruct and assist patient during the procedure.
- Ensure cleaning and maintenance of nebulizer equipment.

#### 7. Chest Physiotherapy and Postural Drainage

- Perform percussion and vibration techniques to mobilize secretions.
- Position patient appropriately to drain different lung segments.
- Encourage deep breathing and coughing.

#### 8. Airway Suctioning (Oropharyngeal/Nasopharyngeal)

- Use sterile technique.
- Clear secretions to prevent aspiration and maintain airway patency.
- Monitor for hypoxia and provide rest between suctioning.

#### 9. Infection Control and Isolation Measures

- Implement airborne precautions (N95 mask, isolation room).
- Educate patient on cough etiquette and mask use.
- Perform hand hygiene and proper waste disposal.

#### **10. Health Teaching and Counseling**

- Teach about TB transmission, treatment adherence, and side effects.
- Educate on lifestyle changes: smoking cessation, nutrition, and rest.
- Provide psychological support and reduce stigma.

#### **11. Documentation and Reporting**

- Record patient observations, treatments, and responses.
- Report new TB cases to public health authorities.
- Maintain accurate and confidential patient records.

Signature of Resident/SNO