

## **CLINICAL SPECIALITY-II**

### **MEDICAL SURGICAL NURSING- ONCOLOGY NURSING**

Placement : II Year

Hours of Instruction  
Theory : 150 hours  
Practicals : 950 hours  
Total : 1100 hours

#### **Course Description**

This course is designed to assist students in developing expertise and in-depth understanding in the field of oncology Nursing. It will help students to develop advanced skills for nursing intervention in various oncological conditions. It will enable the student to function as oncology nurse practitioner/specialist and provide quality care. It will further enable the student to function as educator, manager, and researcher in the field of oncology nursing

#### **Objectives**

1. Explain the prevention, screening and early detection of cancer
2. Describe the epidemiology, etiology, pathophysiology and diagnostic assessment of oncological disorders of various body systems
3. Describe the psychosocial effects of cancer on patients and families.
4. Demonstrate skill in administering/ assisting in various treatment modalities used for patients with cancer
5. Apply nursing process in providing holistic care to patients with cancer.
6. Apply specific concepts of pain management
7. Appreciate the care of death and dying patients and value of bereavement support.
8. Describe the philosophy, concept and various dimensions of palliative care
9. Appreciate the role of alternative systems of medicine in care of cancer patients
10. Appreciate the legal & ethical issues relevant to oncology nursing
11. Recognize and manage Oncological emergencies
12. Counsel the patients with cancer and their families
13. Incorporate evidence based nursing practice and identify the areas of research in the field of oncology nursing
14. Recognize the role of oncology nurse practitioner as a member of oncology team
15. Collaborate with other agencies and utilize resources in caring for cancer patients.

16. Teach and supervise nurses and allied health workers.
17. Design a layout and develop standards for management of oncology units/hospitals and nursing care.

### Content outline

Unit	Hours.	Content
I	4	<b>Introduction</b> <ul style="list-style-type: none"> <li>□ Epidemiology-Incidence, Prevalence – Global, National, State and Local</li> <li>□ Disease burden, concept of cancer, risk factors</li> <li>□ Historical perspectives</li> <li>□ Trends and issues</li> <li>□ Principles of cancer management</li> <li>□ Roles and responsibilities of oncology nurse</li> </ul>
II	5	<b>The Nature of Cancer</b> <ul style="list-style-type: none"> <li>□ Normal cell biology</li> <li>□ The Immune system</li> <li>□ Pathological and pathophysiological changes in tissues <ul style="list-style-type: none"> <li>• Biology of the cancer cell</li> <li>• Clone formation Transformation</li> <li>• Tumor stem lines</li> <li>• Structure of a solid tumor</li> <li>• Products produced by the tumor</li> <li>• Systemic effects of tumor growth</li> </ul> </li> </ul>
III	4	<b>Etiology of Cancer</b> <ul style="list-style-type: none"> <li>□ Carcinogenesis,</li> <li>□ Theories of cancer causation</li> <li>□ Risk factors</li> <li>□ Carcinogens – genetic factors, chemical carcinogens, radiation, viruses, Immune system failure, rapid tissue proliferation</li> <li>□ Hormone changes, diet, emotional factors.</li> </ul>
IV	10	<b>Diagnostic Evaluation</b> <ul style="list-style-type: none"> <li>□ Health assessment: History taking, physical examination,</li> <li>□ Staging and grading of tumors,</li> <li>□ TNM Classification</li> <li>□ Common diagnostic tests <ul style="list-style-type: none"> <li>• Blood investigation: Haemetological, Bio-chemical, Tumor markers, Hormonal assay</li> <li>• Cytology:Fine needle aspiration cytology(FNAC)</li> <li>• Histopathology: Biopsy</li> <li>• Radiological assessment: MRI, Ultrasound, Computed tomography, Mammography, Positron emission tomography(PET), Radio nuclide imaging, Functional metabolism imaging</li> <li>• Endoscopies</li> </ul> </li> </ul> <p>Nurses responsibilities in diagnostic measures</p>

Unit	Hours.	Content
V	10	<p><b>Levels of prevention and care</b></p> <ul style="list-style-type: none"> <li>□ Primary prevention – Guidelines for cancer detection, general measures, Warning signs of cancer,</li> <li>□ Self examination-Oral, Breast, Testicular</li> <li>□ Secondary prevention – early diagnosis.</li> <li>□ Screening</li> <li>□ Tertiary prevention – disability limitation,</li> <li>□ Rehabilitation :Mobility , Speech, Bowel and bladder, Ostomies etc</li> <li>□ Patient and family education,</li> <li>□ Discharge instruction, follow-up care and use of community resources.</li> </ul>
VI	25	<p><b>Cancer Treatment Modalities and Nurse’s Role</b></p> <ul style="list-style-type: none"> <li>□ <b>Surgery</b> <ul style="list-style-type: none"> <li>• Principles of surgical oncology</li> <li>• Current surgical strategy,</li> <li>• Determining surgical risk</li> <li>• Special surgical techniques</li> <li>• Pre-intra-postoperative nursing care</li> <li>• Acute and chronic surgical complications</li> <li>• Future directions and advances</li> </ul> </li> <li>□ <b>Chemotherapy</b> <ul style="list-style-type: none"> <li>• Principles and classification of chemotherapeutics</li> <li>• Pharmacology of antineoplastic drugs- Mechanism of action, Absorption, protein binding, Bio-transformation, excretion, common side effects, drug toxicity</li> <li>• Calculating drug doses,</li> <li>• Therapeutic response to chemotherapy-Tumor variables, drug resistance,</li> <li>• Safety precautions</li> </ul> </li> <li>□ <b>Radiation Therapy</b> <ul style="list-style-type: none"> <li>• Physics of radiotherapy</li> <li>• Types of ionizing rays</li> <li>• Radiation equipments:Linear accelerator, cobalt, Implants,Isotopes,</li> <li>• Types of therapies: Oral, Brachy therapy, tele therapy, selectron therapy</li> <li>• Effects of radiation on the body tissue,</li> <li>• Radiation biology – cell damage hypoxic cells, alteration of tumor kinetics.</li> <li>• Approaches to radiation therapy –</li> <li>• External radiotherapy</li> <li>• Internal radiotherapy – unsealed,</li> <li>• Sealed sources.</li> <li>• Effectiveness of radiotherapy-Radiosensitivity, treatment effects</li> <li>• Complications of radiotherapy</li> <li>• Radiation safety: Standards of Bhaba Atomic Research Centre(BARC)</li> </ul> </li> </ul>

Unit	Hours.	Content
		<ul style="list-style-type: none"> <li>□ <b>Bone Marrow Transplantation/Stem Cell Transplantation</b> <ul style="list-style-type: none"> <li>• Types, indications, transplantation procedure, complications and nursing management</li> <li>• Types and donor sources</li> <li>• Preparation and care of donor and recipient</li> <li>• Bone marrow bank</li> <li>• Legal and ethical issues</li> </ul> </li> <li>□ <b>Immunotherapy (Biotherapy)</b> <ul style="list-style-type: none"> <li>• Concepts and principles</li> <li>• Classification of agents</li> <li>• Treatment and applications</li> </ul> </li> <li>□ <b>Gene Therapy</b> <ul style="list-style-type: none"> <li>• Current Concepts and practices</li> </ul> </li> <li>□ <b>Alternative and Complementary Therapies</b> <ul style="list-style-type: none"> <li>• Current practices</li> </ul> </li> </ul>
<b>VII</b>	<b>10</b>	<ul style="list-style-type: none"> <li>□ <b>Pain management:- Theories, types and</b> <ul style="list-style-type: none"> <li>• Nature of cancer pain</li> <li>• Pathophysiology of pain</li> <li>• Pain threshold</li> </ul> </li> <li>□ <b>Assessment of pain</b> <ul style="list-style-type: none"> <li>• Principles of cancer pain control</li> <li>• Pharmacological: Opioid and non-opioid analgesic therapy</li> <li>• Patient controlled analgesia(PCA)</li> <li>• Other invasive techniques of pain control</li> <li>• Recent developments in Cancer pain</li> </ul> </li> <li>□ <b>Non- Pharmacological pain relief technique-</b> <ul style="list-style-type: none"> <li>• Complementary therapies(Music, massage, meditation, relaxation techniques, biofeed back etc)</li> <li>• Psychological intervention in pain control</li> <li>• Alternative system of medicines</li> </ul> </li> </ul> <p>Role of nurse</p>
<b>VIII</b>	<b>5</b>	<p><b>Palliative care</b></p> <ul style="list-style-type: none"> <li>□ Definition and scope, philosophy</li> <li>□ Concept and elements of palliative care</li> <li>□ Global and Indian perspective of palliative care</li> <li>□ Quality of life issues</li> <li>□ Communication skill</li> <li>□ Nursing perspective of palliative care and its elements</li> <li>□ Home care</li> <li>□ Hospice care</li> </ul> <p>Role of nurse in palliative care</p>

Unit	Hours.	Content
<b>IX</b>	<b>2</b>	<ul style="list-style-type: none"> <li>□ <b>Infection control:</b> <ul style="list-style-type: none"> <li>• Process of infection, risk of hospitalization, nosocomial infections- prevention and control of infection in acute, long term care facility and community based care</li> <li>• Standard safety measures</li> </ul> </li> </ul>
<b>X</b>	<b>30</b>	<p><b>Nursing Care of Patients With Specific Malignant Disorders</b></p> <ul style="list-style-type: none"> <li>□ Malignancies of G.I. system-oral, oesophagus, stomach, rectal, liver &amp; pancreas, care of ostomies/stoma</li> <li>□ Respiratory malignancies</li> <li>□ Genito urinary system malignancies- prostate Bladder, renal testicular malignancies,</li> <li>□ Gynecological malignancies-cervix, uterus, ovary</li> <li>□ Hematological malignancies-Lymphomas, Leukemias.</li> <li>□ Malignancies of musculoskeletal system</li> <li>□ Endocrine malignancies</li> <li>□ Skin</li> <li>□ Head and Neck -brain tumors</li> <li>□ Other malignancies – Breast cancer, AIDS related Malignancies (Kaposi's Sarcoma)</li> </ul>
<b>XI</b>	<b>10</b>	<p><b>Paediatric malignancies</b></p> <ul style="list-style-type: none"> <li>□ Leukemia, Lymphoma, Neuro- blastoma</li> <li>□ Wilm's tumor, Soft tissue sarcoma, Retinoblastoma</li> <li>□ Nursing Management of children with Paediatric Malignancies</li> </ul>
<b>XII</b>	<b>15</b>	<p><b>Nursing Management of Physiological Conditions and Symptoms Of Cancer Patient</b></p> <ul style="list-style-type: none"> <li>□ <u>Nutrition</u>: - effects of cancer on nutritional Status and its consequences:-Anemia, Cachexia, Xerostomia, mucositis, Dysphagia , nausea and vomiting, constipation, diarrhoea, electrolyte imbalances, taste alterations</li> <li>□ Impaired mobility: Decubitus ulcer, pathologic fractures, thrombophlebitis, pulmonary embolism, contractures, footdrop</li> </ul> <p><b>Other symptoms</b></p> <ul style="list-style-type: none"> <li>□ Dyspepsia &amp; hiccup, dyspnoea</li> <li>□ intestinal obstruction,</li> <li>□ Fungating wounds</li> <li>□ Anxiety &amp; depression, insomnia</li> <li>□ Lymph edema</li> </ul> <p><b>Impact of cancer on sexuality:</b></p> <ul style="list-style-type: none"> <li>□ Effects of radiotherapy/ chemotherapy/ surgery on sexuality of the cancer patient</li> <li>□ Nursing management of cancer patients experiencing sexual dysfunction</li> <li>□ Sexual counseling</li> </ul>

Unit	Hours.	Content
<b>XIII</b>	<b>10</b>	<p><b>Cancer Emergencies</b></p> <ul style="list-style-type: none"> <li>□ Disseminated intravascular coagulation(DIC),</li> <li>□ Malignant pleural effusion</li> <li>□ Neoplastic cardiac tamponade and septic shock spinal cord compression</li> <li>□ Superior venacava syndrome</li> <li>□ Metabolic emergency: hyper and hypo calcemia</li> <li>□ Surgical emergency</li> <li>□ Urological emergency</li> <li>□ Hemorrhage</li> <li>□ Organ obstruction</li> <li>□ Brain metastasis</li> <li>□ Nurses role in managing oncologic emergencies</li> </ul>
<b>XIV</b>	<b>8</b>	<p><b>Psycho-Social Aspects of Nursing Care</b></p> <ul style="list-style-type: none"> <li>□ Psychological responses of patients with cancer</li> <li>□ Psychosocial assessment –</li> <li>□ Crisis intervention, coping mechanisms</li> <li>□ Stress management, spiritual/cultural care and needs</li> <li>□ Counseling: individual and family</li> <li>□ Maximizing quality of life of patient and family</li> </ul> <p><b>Ethical, moral and legal issues-</b></p> <ul style="list-style-type: none"> <li>□ End of life care</li> <li>□ Grief and grieving process</li> <li>□ Bereavement support</li> <li>□ Care of Nurses who care for the dying.</li> </ul>
<b>XV</b>	<b>2</b>	<p><b>Layout and Design of an oncology institution/ ward, OPD, chemotherapy unit, Bone marrow transplantation unit, Pain clinic etc</b></p> <ul style="list-style-type: none"> <li>□ Practice Standards of oncology nursing <ul style="list-style-type: none"> <li>• Policies and Procedures</li> </ul> </li> <li>□ Establishing Standing orders and Protocols</li> </ul> <p><b>Quality Assurance Programme in oncology units</b></p> <ul style="list-style-type: none"> <li>□ Nursing audit</li> </ul>

## Clinical Experience

S. No.	Deptt./ Unit	No. of Week	Total Hours
1	Medical Oncology ward	6	180 Hours
2	Surgical Oncology ward	6	180 Hours
3	Bone marrow transplantation Unit	2	60 Hours
4	Operation Theatre	2	60 Hours
5	Radiotherapy Unit	2	60 Hours
6	Chemotherapy Unit	4	120 Hours
7	Out patient department and pain clinic	2	60 Hours
8	Pediatric Oncology ward	2	60 Hours
9	Palliative Care ward	2	60 Hours
10	Community oncology	2	60 Hours
11	Hospice	1	30 Hours
12	Other field visits	1	30 Hours
	<b>Total</b>	<b>32 Weeks</b>	<b>960 Hours</b>

## Procedures Observed

1. CT Scan
2. MRI
3. PET Scan(Positron Emission Tomography)
4. Ultra sound
5. Mammography
6. Radio Nuclide Imaging
7. Bone Scan
8. Thyroid Function Test
9. Functional and Metabolic Imaging
10. Transportation of radioactive materials
11. Others

## Procedures Assisted

1. IV cannulation – Open method
2. Chemotherapy
3. Radiotherapy – Brachytherapy – Low Density Radiation, High Density Radiation.
4. Interstitial implantation
5. Bio-therapy and Gene therapy
6. Teletherapy – Treatment planning
7. Bone marrow aspiration and biopsy
8. Biopsy – tissue
9. FNAC – Fine Needle Aspiration Cytology and biopsy

10. Advance Cardiac life support
11. Endotracheal intubation
12. Defibrillation Ventilation
13. Tracheostomy
14. Thoracentesis
15. Paracentesis
16. Lumbar Puncture
17. Arterial Blood Gas
18. Nerve Block
19. Chest tube insertion
20. Intercostal drainage
21. CVP monitoring

### **Procedure Performed**

1. Screening for cancer
2. Assessment of pain
3. Assessment of Nutritional status
4. Care of Tracheostomy
5. Endotracheal intubation
6. Gastric gavage
7. Pap smear
8. IV cannulation
9. Care of surgical flaps
10. Care of ostomies
11. Blood transfusion and component therapy
12. Counseling
13. Practice standard safety measures
14. Care of dead body and mortuary formalities

### **Other procedures**

#### **(As per the institutional protocol):**

1. Alternative therapies