

Macao Polytechnic Institute
School of Health Sciences and Sports
Master of Science in Nursing

Module Outline

Learning Module	Cancer Nursing			Class Code	NURS6106
Pre-requisite(s)	NIL				
Medium of Instruction	Chinese / English			Credit	6
Lecture Hours	90 hrs	Lab/Practice Hours	---	Total Hours	90 hrs

Description

The aim of the course is that the student should acquire in-depth knowledge and advanced understanding in the field of Oncology Nursing regarding cancer diseases. It will help students to develop a preparedness to identify, assess, plan, perform advanced skills for nursing intervention in various oncological conditions and evaluate nursing needs for patients with cancer diseases. The course will enable the student to function as oncology nurse practitioner/specialist and to promote health and well-being for patients with cancer diseases. It will further enable the student to function as educator, manager, and researcher in the field of oncology nursing.

Learning Outcomes

After completing the learning module, students will be able to:

1. explain the implications of health science concepts related to different aspects of nursing and care in cancer.
2. account for principles with respect to primary, secondary and tertiary cancer prevention.
3. describe and explain reasons to commonly occurring symptoms related to cancer disease and treatment.
4. understand and explain different treatment principles at curative and palliative treatment of cancer disease.
5. identify, assess, plan, attend to and evaluate symptoms in individuals with cancer disease.
6. participate in curative and palliative treatment of cancer disease.
7. be able to identify and analyse factors that influence the patients' and significant others' quality of life.
8. assess patients and significant others needs for information, support and coordination of care and suggest actions to meet the identified needs.

9. discuss socio-cultural aspects related to cancer care.

Content

1. Introduction (4 hours)
 - 1.1 Epidemiology of cancer diseases
(*UNDERSTAND*: “Students can describe the knowledge of incidence and prevalence of cancer disease.”)
 - 1.2 Disease burden, concept of cancer, risk factors
 - 1.3 Historical perspectives
 - 1.4 Trends and issues
 - 1.5 Principles of cancer management
 - 1.6 Roles and responsibilities of oncology nurse
(*MASTER*: “Students can discuss the concept, and principles of cancer management.”)

2. The Nature of Cancer (5 hours)
 - 2.1 Normal cell biology
 - 2.2 The Immune system
 - 2.3 Pathological and pathophysiological changes in tissues
 - 2.4 Biology of the cancer cell
 - 2.5 Clone formation Transformation
 - 2.6 Tumor stem lines
 - 2.7 Structure of a solid tumor
 - 2.8 Products produced by the tumor
 - 2.9 Systemic effects of tumor growth
(*COMPREHEND*: “Students have to summarize and explain the Pathological and pathophysiological changes in tissues of cancer”.)

3. Etiology of Cancer (4 hours)
 - 3.1 Carcinogenesis,
 - 3.2 Theories of cancer causation
 - 3.3 Risk factors
 - 3.4 Carcinogens – genetic factors, chemical carcinogens, radiation, viruses, Immune system, failure, rapid tissue proliferation
 - 3.5 Hormone changes, diet, emotional factors.
(*COMPREHEND*: “Students have to describe the etiology of cancer and theories of cancer causation”.)

4. Diagnostic Evaluation (10 hours)
 - 4.1 Health assessment: History taking, physical examination,

- 4.2 Staging and grading of tumors,
- 4.3 TNM Classification Common diagnostic tests
- 4.4 Blood investigation: Haemetological, Bio-chemical, Tumor markers, Hormonal assay
- 4.5 Cytology: Fine needle aspiration cytology(FNAC)
- 4.6 Histopathology: Biopsy
- 4.7 Radiological assessment: MRI, Ultrasound, Computed tomography, Mammography, Positron emission tomography(PET), Radio nuclide imaging, Functional metabolism imaging
- 4.8 Endoscopies
- 4.9 Nurses responsibilities in diagnostic measures
(*COMPREHEND* : “Students can discuss about health assessment and diagnostic tests of patients with cancer”.)

5. Levels of prevention and care (10 hours)

- 5.1 Primary prevention- Guidelines for cancer detection, general measures, warning signs of cancer,
- 5.2 Self examination- Oral, Breast, Testicular
- 5.3 Secondary prevention- early diagnosis.
- 5.4 Screening
- 5.5 Tertiary prevention- disability limitation,
- 5.6 Rehabilitation: Mobility, Speech, Bowel and bladder, Ostomies etc
- 5.7 Patient and family education,
- 5.8 Discharge instruction, follow-up care and use of community resources.
(*COMPREHEND* : “Students can elaborate and discuss the prevention and care of cancer diseases”.)

6. Cancer treatment modalities and nurse’s role (25 hours)

- 6.1 Surgery
 - 6.1.1 Principles of surgical oncology
 - 6.1.2 Current surgical strategy,
 - 6.1.3 Determining surgical risk
 - 6.1.4 Special surgical techniques
 - 6.1.5 Pre-intra-postoperative nursing care
 - 6.1.6 Acute and chronic surgical complications
 - 6.1.7 Future directions and advances
- 6.2 Chemotherapy
 - 6.2.1 Principles and classification of chemotherapeutics
 - 6.2.2 Pharmacology of antineoplastic drugs- Mechanism of action, absorption, protein binding, bio-transformation, excretion, common side effects, drug toxicity

- 6.2.3 Calculating drug doses,
- 6.2.4 Therapeutic response to chemotherapy-Tumor variables, drug resistance,
- 6.2.5 Safety precaution
- 6.3 Radiation Therapy
 - 6.3.1 Physics of radiotherapy
 - 6.3.2 Types of ionizing rays
 - 6.3.3 Radiation equipments: Linear accelerator, cobalt, Implants, Isotopes,
 - 6.3.4 Types of therapies: Oral, Brachy therapy, tele therapy, selectron therapy
 - 6.3.5 Effects of radiation on the body tissue,
 - 6.3.6 Radiation biology – cell damage hypoxic cells, alteration of tumor kinetics.
 - 6.3.7 Approaches to radiation therapy
 - 6.3.7.1 External radiotherapy
 - 6.3.7.2 Internal radiotherapy – unsealed, sealed sources.
 - 6.3.8 Effectiveness of radiotherapy-Radiosensitivity, treatment effects
 - 6.3.9 Complications of radiotherapy
 - 6.3.10 Radiation safety: Standards of Bhaba Atomic Research Centre(BARC) 83 Unit Hours. Content %
- 6.4 Bone Marrow Transplantation /Stem Cell Transplantation
 - 6.4.1 Types, indications, transplantation procedure, complications and nursing management
 - 6.4.2 Types and donor sources
 - 6.4.3 Preparation and care of donor and recipient
 - 6.4.4 Bone marrow bank
 - 6.4.5 Legal and ethical issues
- 6.5 Immunotherapy (Biotherapy)
 - 6.5.1 Concepts and principles
 - 6.5.2 Classification of agents
 - 6.5.3 Treatment and applications
- 6.6 Gene Therapy: Current Concepts and practices
- 6.7 Alternative and Complementary Therapies: Current practices
(*COMPREHEND* : “Students can compare and discuss the cancer treatment modalities and nurse’s role”.)
- 7. Pain management and End of life (10 hours)
 - 7.1 Theories and types
 - 7.1.1 Nature of cancer pain
 - 7.1.2 Pathophysiology of pain
 - 7.1.3 Pain threshold
 - 7.2 Assessment of pain

7.3 Principles of cancer pain control

7.4 Pharmacological:

7.4.1 Opioid and non-opioid analgesic therapy

7.4.2 Patient controlled analgesia(PCA)

7.4.3 Other invasive techniques of pain control

7.4.4 Recent developments in Cancer pain

7.5 Non- Pharmacological pain relief technique-

7.5.1 Complementary therapies(Music, massage, meditation, relaxation techniques, biofeed back etc)

7.5.2 Psychological intervention in pain control

7.5.3 Alternative system of medicines

7.6 End of life issue

7.7 Role of nurse

(*COMPREHEND* : “Students can elaborate and discuss the cancer pain management and nurse’s role”.)

8. Palliative care (7 hours)

8.1 Definition and scope, philosophy

8.2 Concept and elements of palliative care

8.3 Global and Macao perspective of palliative care

8.4 Quality of life issues

8.5 Communication skill

8.6 Nursing perspective of palliative care and its elements

8.7 Home care

8.8 Hospice care

8.9 Role of nurse in palliative care

(*COMPREHEND* : “Students can elaborate and discuss the palliative care and nurse’s role”.)

9. Nutrition (15 hours)

9.1 Effects of cancer on nutritional status and its consequences:

9.1.1 Anemia, cachexia, xerostomia, mucositis, dysphagia,nauseaand vomiting, constipation, diarrhoea, electrolyte imbalances, taste alterations.

9.1.2 Impaired mobility: Decubitus ulcer, pathologic fractures, thrombophlebitis, pulmonary embolism, contractures, footdrop.

9.1.3 Other symptoms: Dyspepsia & hiccup, dyspnoea intestinal obstruction, Fungating wounds, Anxiety & depression, insomnia, Lymph edema.

9.2 Impact of cancer on nutritional status:

9.2.1 Effects of radiotherapy/chemotherapy/surgery on nutritional status of the cancer patient.

9.2.2 Nursing assessment and management of cancer patients on nutritional status of the cancer patient.

(*COMPREHEND* : “Students can elaborate and discuss the nutrition issues at cancer care and nurse’s role”.)

Teaching Method

Lectures, tutorial (case studies and small group discussions), seminars.

Attendance

Attendance requirements are governed by the “Academic Regulations Governing Master’s Degree Programmes of Macao Polytechnic Institute”. Students are not eligible to attend the final examination and re-sit examination, moreover, an “F” will be given as the final grade to students who have less than the stated attendance for the enrolled subject.

Assessment

This learning module is graded on a 100 point scale, with 100 being the highest possible score and 50 being the passing score.

	Item	Description	Percentage
1.	Group assignments: issue discussions	Based on the course, each group will discuss the application of cancer care and explore the issues of the relevant update knowledge through small group discussions. Written paper evaluation: Etiology and diagnostic evaluation(10%), cancer prevention (10%), treatment and nursing management of cancer(10%), pain and nutrition (10%).	40%
2.	Individual assignment: Case study for the patient with cancer under pain, malnutrition, end stage of cancer etc.	Based on topics of cancer nursing, each student develops a relevant nursing care plan for the cancer patients under pain, malnutrition, end stage of cancer etc.	60%

Total Percentage: 100%

Teaching Material(s)

Textbook(s)

Yarbro, C. H., Wujcik, D., & Gobel, B. H. (2018). *Cancer nursing: principles and practice* (8 ed.). Burlington, MA : Jones & Bartlett Learning.

Reference

Reference book(s)

Sandra M.N. (2018). *The Lippincott manual of nursing practice* (11th ed.). Philadelphia: Lippincott Williams & Wilkins.

Sharon L. (2017). *Medical-Surgical Nursing: Assessment and Management of Clinical Problems*, (10th ed.). St. Louis, Missouri: Elsevier

Urden, L. D., Stacy, K. M., & Lough, M. E. (2018). *Thelan's critical care nursing: diagnosis and management* (8th ed.). St. Louis: Elsevier.

Journal(s)

Chinese Nursing Research (護理研究) (Mainland China)

(<http://c.wanfangdata.com.cn/periodical-sxhlzz.aspx>)

International Journal of Nursing Studies

(http://www.elsevier.com/wps/find/homepage.cws_home)

Journal of Advanced Nursing

(<http://www.journalofadvancednursing.com/>)

Nurse Education Today

(<https://www.journals.elsevier.com/nurse-education-today>)

Nursing Research

(<http://www.nursing-research-editor.com/index.php>)

The Journal of Nursing Research (護理研究) (Taiwan)

(http://www.twna.org.tw/frontend/un10_open/welcome.asp#)

Website(s)

CINAHL Plus with Full Text

Elsevier Clinical Skills

Ovid

Science Direct

MEDLINE

中國期刊全文數據庫 (CAJ)

實證護理資料庫

澳門虛擬圖書館