

CLINICAL NURSING II – CARDIOLOGICAL/CTVS NURSING

PLACEMENT: 2ND YEAR

HOURS OF INSTRUCTION: Theory 150 hours + Practical 800 hours = 950 hours

PURPOSE: Develop in depth understanding and competency in the care of patients with problems of cardiovascular system.

SPECIFIC OBJECTIVES:

At the end of the course the students will be able to:

1. Discuss anatomy and physiology of thorax, heart and blood vessels.
2. Describe physiological and pathological responses relating to cardio thoracic and vascular diseases
3. Describe cardio- thoracic and vascular diseases and their management
4. Discuss various diagnostic tests performed for patients with cardio thoracic and vascular disorders
5. Use nursing process in providing comprehensive nursing care to patients with cardio- thoracic and vascular disorders.
6. Demonstrate skill in handling different equipment used for management of patients with cardio-thoracic and vascular disorders.
7. Demonstrate competency in handling emergencies relating to cardio- thoracic and vascular disorders.
8. Describe various drugs used in treating patients with cardiac diseases
9. Participate in prevention and control of cardio- thoracic and vascular diseases.
10. Describe various drugs used in treating patients with cardiac diseases
11. Participate in rehabilitating patients recovering from acute cardiac disorders.
12. Appreciate the role of alternative therapies in the management of patients with cardiac disorders
13. Practice as advance practitioner in cardiological nursing
14. Participate in planning and designing ICCU & ITU
15. Discuss the ethical and legal issues related to caring for patients with cardiac diseases.
16. Conduct clinical research studies in cardiological nursing.
17. Develop standards of cardiological nursing practice
18. Plan and conduct in service education program in cardiological nursing

CONTENT OUTLINE

Unit I Introduction:

- Historical perspective
- Epidemiological transitions in the world and in India
- Future challenges

Unit II Psychosocial issues in cardio thoracic & vascular disorders

- Historical perspective- Personality factors: stress, depression and anxiety, Type A behavior pattern, hostility
- Psychosocial factors affecting cardiac function

Unit III Preventive & Control measures of cardio thoracic & vascular disorders

- Atherosclerotic cardio thoracic vascular disorders
- Diet - nutritional issues and obesity
- Lipid disorders
- Hypertension – diagnosis and therapy
- Diabetes
- Smoking
- Other risk factors

Unit IV Review of anatomy and physiology of cardiovascular system

- Thoracic cavity – its contents
- Cardiac anatomy and physiology – cardiac structures, Coronary circulation, cardiac innervation, myocardial cell electrical characteristics, cardiac action potential
- Systemic circulation
- Pulmonary circulation and gas transport
- Control of blood pressure and cardiac output

Unit V Physiologic and pathologic responses

- Hematopoiesis and coagulation
- Fluid and electrolyte balance and imbalance
- Acid- base balances and imbalances
- Physiologic adaptations with aging
- Sleep

Unit VI Assessment of normal and abnormal cardiac function:

- History taking and physical examination
- Indications, purposes, preparation, pre and post procedure care in laboratory Tests: Blood-Haematologic studies, Arterial Blood gases, Blood Chemistry, Serum concentration of selected drugs, cardiac markers
- Radiological studies
- Electrocardiography
- Arrhythmias and conduction disturbances
- Cardiac Electro-physiology study
- Echocardiography, Radioisotope studies, Electron beam computed Tomography, magnetic resonance imaging and Phonocardiography

- Exercise testing
- Cardiac catheterization
- Haemodynamic monitoring

Unit VII Management of patient with cardiovascular diseases – causes, pathophysiology, clinical features, diagnosis and management of:

- Rheumatic heart disease
- Myocardial ischemia, Pathogenesis of Atherosclerosis
- Interventional cardiology techniques
- Heart Failure
- Shock
- Sudden cardiac death
- Congenital heart disease
- Valvular heart disease
- Pericardial, myocardial and endocardial Disease
- Heart block

Unit VIII Management of patients undergoing cardiac surgery:

- Preoperative assessment, preparation including health education
- Surgical Techniques-Minimally Invasive Techniques, Cardiopulmonary bypass, Myocardial protection, Deep hypothermic circulatory Arrest
- Coronary Artery Revascularization,
- Corrective Surgery (congenital and acquired valvular)
- Cardiac Transplantation

Unit IX Management of cardiac emergencies:

- Cardiac arrest
- Pulmonary edema
- Cardiogenic shock
- Pulmonary embolism
- Hypertensive crisis
- Advanced Life support measures
- Pacemaker failure

Unit X Management of patients with vascular problems:

- Aneurisms
- Peripheral vascular diseases – thrombo- embolism, Raynaud’s disease, Burgers’ disease
- Pre and post operative nursing management

Unit XI Rehabilitation of patient with cardiovascular problems:

- Risk factors and prevention

- Rehabilitation of patients with CAD
- Rehabilitation of patients with cardiac surgery
- Family and patient teaching

Unit XII Drugs used in Cardiac disorders:

- Antihypertensives, Antiarrhythmics, Calcium antagonists, Vasodilators, Inotropic and vasopressors, Anticoagulants, Thrombolytic, Cardiotonic, Hypolipemic, Salicylates, Diuretics, cardioplegics

Unit XIII Critical care units - ICCU and ICU:

- Philosophy, aims and objectives,
- Policies, staffing pattern, design and physical plan of ICCU and ICU.
- Team approach, functions
- Psychosocial aspects in relation to staff and clients of ICU.
- In service education
- Ethical and legal issues

Unit XIV Invasive cardiac diagnostic and therapeutic procedures:

- Invasive hemodynamic monitoring
- Pacemaker and implantable defibrillator
- Digital subtraction angiography and angioplasty
- IABP
- Pericardial tapping
- Intra thoracic and intra cardiac chest drainage

Unit XV Quality assurance in cardiological nursing practice

- Role of advance practitioner in cardiological nursing
- Professional practice standards
- Quality control in cardiological nursing
- Nursing audit

UNIT XVI Alternative therapies in cardiology