



University of Malawi
KAMUZU COLLEGE OF NURSING

B Sc IN NURSING AND MIDWIFERY

MODULE NUR 202: ADULT HEALTH NURSING

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CREDITS : 6

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Abbreviations

ABG:	Arterial Blood Gases
ACE:	Angiotensin converting enzyme
AIDS:	Acquired Immune Deficiency Syndrome
ARDS:	Adult respiratory distress syndrome
BPH :	Benign Prostatic Hypertrophy
CAD:	Coronary Artery Disease
CCF:	Congestive Cardiac Failure
CHD:	Coronary Heart Disease
CHF:	Congestive Heart Failure
COPD:	Chronic Obstructive Pulmonary Diseases
CVA:	Cerebral Vascular Accident
ECG:	Electrocardiograph
EKG:	Electrocardiogram
GI:	Gastrointestinal
HCl:	Hydrochloric acid
ICP:	Intracranial Pressure
IOP:	Intraocular Pressure
NSAID:	Non-Steroid Anti-inflammatory Drug
PUD:	Peptic Ulcer Disease
TB:	Tuberculosis
WHO:	World Health Organization

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Module Descriptor

The module provides the learner with opportunities to develop and synthesize knowledge, skills and the appropriate attitudes necessary for rendering comprehensive care to adult patients with chronic illness. The relationship between normal physiology and specific system alterations produced by diseases will be explored. Particular attention will be given to etiology, pathogenesis, developmental and environmental influences, evidence based nursing interventions, pharmacokinetics and pharmacodynamics. The nursing process and nursing theories of Self care, Activities of living and Transcultural nursing will be used as frameworks of care.

Module Aim

The aim of the module is to prepare learners to provide nursing care for adult patients/clients, their families and others from a diverse ethnic and cultural background in health care facilities and communities.

Learning Outcomes

Upon completion of this module the learner is expected to be able to:

- Explain chronicity.
- Describe disease processes in chronic/terminal conditions
- Discuss the comprehensive nursing management of adult patient with chronic/terminal conditions using the nursing process
- Explain the interventional approaches to chronic/terminal conditions including specific patient/family education
- Explain palliative nursing care of patients with terminal conditions

Assessment Criteria

The learner will demonstrate ability to

- Conduct a nursing assessment and analysis of data for clients with specific manifestations of chronic illness
- Competently provide nursing management to clients with specific manifestations of chronic illnesses.

- Differentiate the common drugs used to treat the manifestations of chronic illnesses

Assessment Methods

Continuous assessment (40%)

Learners Activities

- Class presentation (20%)

CASE PRESENTATION GUIDELINES

- *Read about the condition given using the module as a guide*
- *Identify a client from Queen Elizabeth Central Hospital (QECH) Outpatient or in patient departments with the condition for presentation*
- *Obtain the clients subjective data*
- *Obtain the clients objective data (physical assessment, lab investigations done and findings)*
- *Develop a care plan for the client based on the assessment (subjective and objective data)*
- *Consult nursing and medical staff on the specific management for the condition at QECH*
- *Prepare a 1 Hour power point presentation*
- *The presentation should relate findings from the case with what literature says*
- *A hard copy of the presentation shall be submitted for marking*

NOTE:

- *Students to be in full uniform when going to the clinical area to assess the client in preparation for presentation*
- *Supervising lecturer for the topic to be informed about the identified client before proceeding with the case for approval*

- Mid-semester test (20%)

End of Module Examinations (60%)

Learning Contract

Learners' Role

- Responsible for own learning
- Continuously monitoring personal progress and reflecting on whether learning outcomes are being achieved.
- Carrying out all activities stipulated in this module
- Submit all assignments on time
- Attend all class sessions and actively participate in class seminars/discussions and group projects

Lecturer's Role

- Provide learners with modules containing expected learning outcomes, content areas, learners' activities, assessment criteria and methods
- Provide guidance and support to achieve learning outcomes
- Monitor and evaluate performance of learners' learning activities
- Facilitate learners' discussion and seminars

Module Contract

I will complete this module within the specified period in order to gain the appropriate knowledge, skills and attitudes. I am aware that I have to achieve the stipulated outcomes in readiness for clinical placement and assessments.

Learner's Name:

Learner's Signature:

Date:

UNIT 1: Introduction

1.1.Chronic Illness

Learning Outcomes

At the end of the learning experience in this section, the learner should be able to:

- Define chronicity/chronic illness
- Describe the characteristics of chronic illness
- Describe factors that influence chronic illness
- Explain the impact of chronic illness on an individual, family, community & nation; physically, socially, spiritually & economically

Assessment Criteria

To ensure that learners have attained the learning outcomes, learners shall be able to:

- Demonstrate knowledge of concepts related to chronicity.
- Demonstrate competence in the general approaches for chronic care

1.1.1. Definition of Chronic Illness

“Chronic diseases are diseases of long duration and generally slow progression”

(World Health Organization, 2012). Chronic diseases do not resolve spontaneously and are rarely cured completely. However, they increase in frequency with age, and elderly people often have multiple chronic diseases. Chronic diseases are found in all socioeconomic, ethnic, cultural, and racial groups. Certain diseases, however, occur more frequently in some groups than in others. Most clients with chronic diseases do not require hospitalization if the disease is under control. Many chronic diseases require life time therapeutic regimens to keep them under control.

1.1.2. Characteristics of Chronic Illness

- Permanent impairment
- Nonreversible pathologic changes
- Residual disability
- Special rehabilitation required

- Need for long-term medical and/or nursing management

1.1.3. Factors That Influence Chronic Illness

- Age
- Gender
- Race/ethnicity
- Life style

1.1.4. Impact of Chronic Illness

Learners Activity: 1.1

- a) *Discuss the physical, social, spiritual and economic impact of chronic illness on*
- *An Individual*
 - *Family*
 - *Community*
 - *Nation*
- b) *Discuss the role of palliative care nursing in chronic illness*

Recommended readings

Day, A.R., Paul, P., Williams, B., Smeltzer, S.C. and Bare, B. (2007). Brunner and Suddarths's Text Book of Medical-Surgical Nursing. (Canadian Ed.), Lippincott William and Wilkins: Philadelphia

Smeltzer, S.C., Bare, B.G., Hinkle, J.L. and Cheever K.H. (2008). Brunner and Suddarths's Text Book of Medical-Surgical Nursing. (11th Ed.), Lippincott William and Wilkins: Philadelphia

World Health Organization, Chronic diseases, (n.d) retrieved from

http://www.who.int/topics/chronic_diseases/en/

Supplementary readings

Ignatavicius, D.D. and Workman, M.L., (2006), Medical-Surgical Nursing: Critical Thinking for Collaborative Care, (5th Ed.), Elsevier: Mosby

Lemone, P. and Burke, K., (2004), Medical-Surgical Nursing: Critical Thinking in Client Care, (3rd Ed.), Pearson Prentice Hall: New Jersey

Lewis, S.M., Heitkemper, M.M. and Dikens, S.R., (2004), Medical-Surgical Nursing:

Assessment and Management of Clinical Problems, (6th Ed.), St. Louis: Mosby
Lewis, S.L., Heitkemper, M.M., Dirksen, S.R., O'Brien, P.G, and Bucler, L., (2007),
Medical-Surgical Nursing: Assessment and Management of Clinical Problems.
Mosby: St. Luis.

Monaham, F.D., Sands, J.K., Neighbors M., Merek, .J.F and Green C.J., (2007), Phipps'
Medical-Surgical Nursing: Health and Illness Perspectives, (8th Ed.), Mosby:
St.Louis

1.2.The Nursing Process

Learning Outcomes

At the end of the learning experience in this section, the learner shall be able to:

- Define the nursing process
- Review the stages of the nursing process
- Apply the nursing process in the management of clients with chronic diseases

Assessment criteria

To ensure that learners have attained the learning outcomes, learners shall be able to:

- Follow the steps in the nursing process in management of clients with chronic illness.

1.2.1. Nursing Process Definition

“Nursing Process is an assertive, problem solving approach to the identification and treatment of client’s problems. It is an organizing framework for the practice of nursing and the knowledge, judgment and actions that nurses bring to patient care. Nursing process requires cognitive (thinking, reasoning), psychomotor (doing) and affective (feelings, values) skills and abilities of the nurse” (Lewis, Dirkens, Heitkemper, Bucher, Camera, 2011, p10).

1.2.2. Phases of the Nursing Process

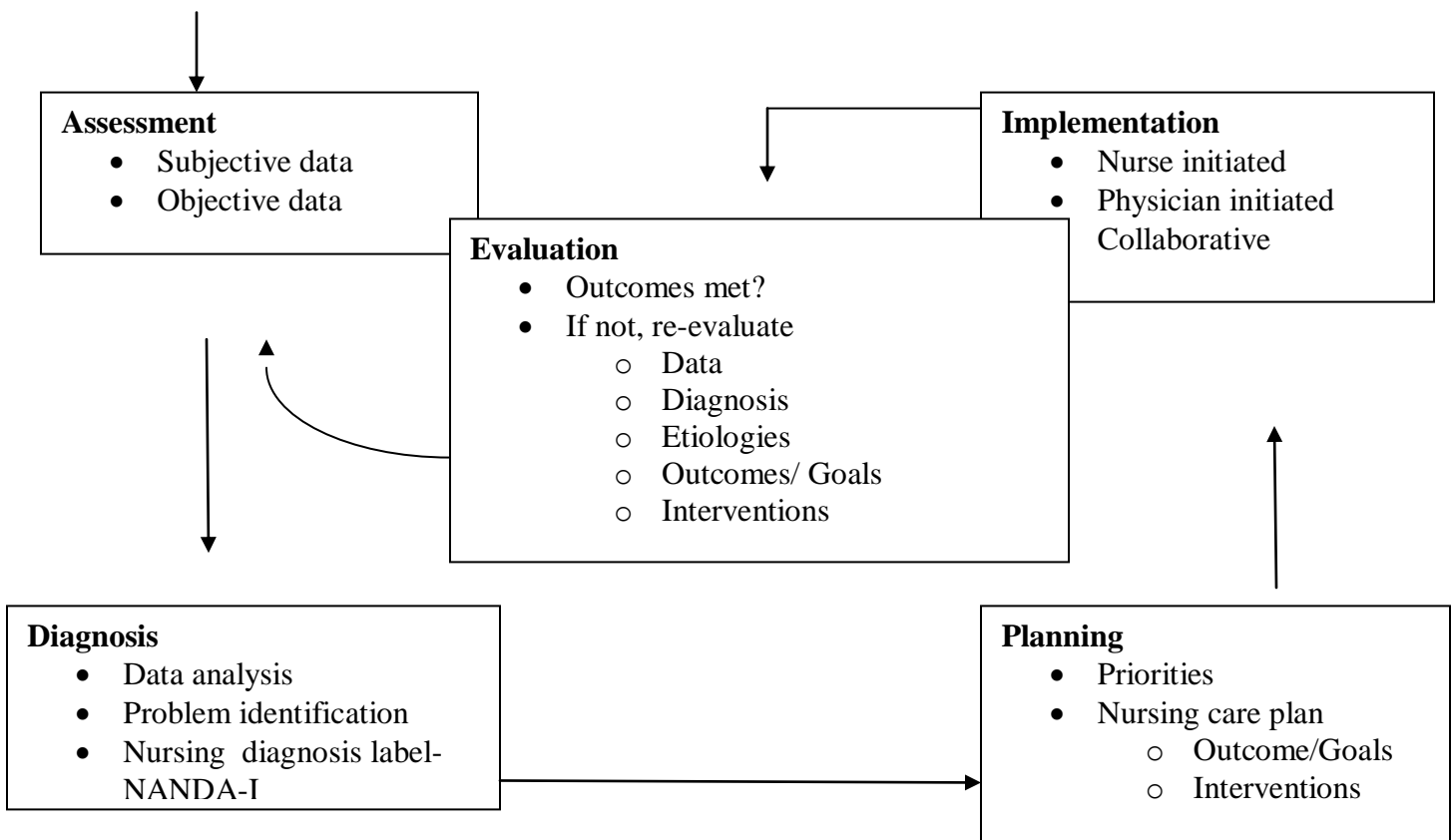


Figure 2.1: Nursing process: adapted from Lewis, et al. (2011, p10)

Recommended reading

Carpenito, L.J. (2004). Nursing Diagnosis: Application to Clinical Practice.

Philadelphia, Lippincott Williams and Wilkins

Day, A.R., Paul, P., Williams, B., Smeltzer, S.C. and Bare, B. (2007). Brunner and Suddarths's Text Book of Medical-Surgical Nursing. (Canadian Ed.), Lippincott William and Wilkins: Philadelphia

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Lemone, P. and Burke, K., (2004), Medical-Surgical Nursing: Critical Thinking in Client Care, (3rd Ed.), Pearson Prentice Hall: New Jersey

Lewis, S.M., Heitkemper, M.M. and Dickens, S.R., (2004), Medical-Surgical Nursing: Assessment and Management of Clinical Problems, (6th Ed.), St. Louis: Mosby

Lewis, S.L., Heitkemper, M.M., Dirksen, S.R., O'Brien, P.G, and Bucler, L., (2007),
Medical-Surgical Nursing: Assessment and Management of Clinical Problems.
Mosby: St. Luis.

Smeltzer, S.C., Bare, B.G., Hinkle, J.L. and Cheever K.H. (2008). Brunner and
Suddarths's Text Book of Medical-Surgical Nursing. (11th Ed.), Lippincott
William and Wilkins: Philadelphia

UNIT 2: Nursing Clients with Chronic Cell Disorders

2.1. Cancers

Learning Outcomes:

By the end of this section, the learner shall be able to:

- Define cancer
- Explain the etiology of cancer
- Describe the pathophysiology of cancer
- Identify types of cancers
- Describe the clinical manifestations of cancer
- Explain the medical management of cancer
- Discuss the nursing management of cancer
- Explain the complications of cancer

Assessment criteria

To ensure that learners have attained the learning outcomes, learners shall be able to

- Utilize the nursing process in management of cancer clients
- Demonstrate application of the etiology and pathophysiology of cancer in management of clients presenting with various types of cancer.

2.1.1. Definition

Cancer is a disease characterized by uncontrolled and unregulated growth of cells. There are more than 200 diseases of cancer (Lewis et al, 2011)

2.1.2. Etiology

Cancer causing agents are known as carcinogens. Examples of carcinogens are chemical, radiation, viruses, and genetic susceptibility. Other causes of cancer are unknown (Lewis et al, 2011).

2.1.3. Pathophysiology

Two major dysfunctions occur; these are defective cellular proliferation (growth) and differentiation. The development of cancer occurs in three stages (initiation, promotion, progression). Tumors are classified as benign or malignant (Lewis et al, 2011)

2.1.4. Types of Cancer

Cancers are classified in 3 ways: anatomical site, histology (grading) and extent of disease (clinical stage)

2.1.5. Common cancers: in Malawi

- Among adult males: Kaposi's Sarcoma, Cancer of oesophagus, cancer of prostate, cancer of urinary bladder and cancer of the liver.
- Among adult females: cancer of cervix, Kaposi's sarcoma, cancer of breast, cancer of oesophagus and cancer of urinary bladder

2.1.6. Clinical manifestations

Clinical manifestations depend on the primary organ affected, whether it is a benign or malignant cancer and time of patient presentation (early or late).

C-hange in bowel or bladder

A- lesion that does not heal

U-nusual bleeding or discharge

T-hickening or lump in breast or elsewhere

I-ndigestion or difficulty swallowing

O-bvious changes in wart or mole

N-agging cough or persisten hoarseness

U-nexplained weight loss

P-ernicious Anemia

2.1.7. Medical management

- Surgery
- Chemotherapy
- Radiotherapy

2.1.8. Nursing Management

Nursing management focuses on the following problems:

- Risk of infection
- Pain
- Anxiety
- Altered nutrition less than body requirements
- Knowledge deficit regarding disease condition

Other nursing management is based on individual presentation and treatment of side effects.

2.1.9. Complications

- Metastasis

Recommended readings:

Day, A.R., Paul, P., Williams, B., Smeltzer, S.C. and Bare, B. (2007). Brunner and Suddarths's Text Book of Medical-Surgical Nursing. (Canadian Ed.), Lippincott William and Wilkins: Philadelphia

Ignatavicius, D.D. and Workman, M.L., (2006), Medical-Surgical Nursing: Critical Thinking for Collaborative Care, (5th Ed.), Elsevier: Mosby

Lemone, P. and Burke, K., (2004), Medical-Surgical Nursing: Critical Thinking in Client Care, (3rd Ed.), Pearson Prentice Hall: New Jersey

Lewis, J.K., Donna, K., Jeanne K and Brian, H., (2009), Understanding Cancer and Related Topics. Retrieved from National Cancer Institute website: <http://cancer.gov/cancertopics/understandingcancer>

Lewis, S.M., Heitkemper, M.M. and Dikens, S.R., (2004), Medical-Surgical Nursing: Assessment and Management of Clinical Problems, (6th Ed.), St. Louis: Mosby

Lewis, S.L., Heitkemper, M.M., Dirksen, S.R., O'Brien, P.G, and Bucler, L., (2007), Medical-Surgical Nursing: Assessment and Management of Clinical Problems. Mosby: St. Luis.

Smeltzer, S.C., Bare, B.G., Hinkle, J.L. and Cheever K.H. (2008). Brunner and Suddarths's Text Book of Medical-Surgical Nursing. (11th Ed.), Lippincott William and Wilkins: Philadelphia

2.2. Anemia

Learners' outcomes

By the end of this unit learners shall be able to:

- Define anemia
- Explain the etiology of anemia
- Describe the pathophysiology of anemia
- Discuss the classification of anemia
- Clinical manifestations of anemia
- Explain the medical management of anemia
- Discuss the nursing management of anemia
- Explain the complications of anemia

Assessment criteria

To ensure that learners have attained the learning outcomes, learners shall be able to

- Utilize the nursing process in management of anemic clients
- Demonstrate application of the etiology and pathophysiology of anemia in management of clients presenting with various types of anemia.

2.2.1. Definition

Anemia refers to abnormally low level of red blood cells resulting in the reduction of oxygen carrying capacity of blood (Lewis, et al, 2011).

2.2.2. Etiology

Anemia can be caused by:

- Blood loss
- Impaired production of erythrocytes
- Increased destruction of erythrocytes

2.2.3. Pathophysiology

Anemia is not a specific disease but rather a manifestation of a pathologic process. Because Red Blood Cells (RBC) transport oxygen, erythrocyte disorders can lead to tissue hypoxia. The hypoxia is what accounts for the clinical manifestations of anemia.

2.2.4. Classification of Anemia

- Morphologic classification (based on erythrocytes size and color)
 - Macrocytic anemia
 - Microcytic, hypochromic anemia
 - Normocytic, normochromic anemia
- Etiologic classification (based on cause of anemia)
 - Iron deficiency anemia
 - Folic Acid deficiency anemia
 - Acute blood loss
 - Chronic Blood loss
 - Sickle cell anemia
 - Haemolytic anemia
 - Aplastic anemia
 - Thalassemia

2.2.5. Clinical Manifestations of Anemia

Clinical manifestations depend on severity of the anemia (Mild, moderate, or severe). Below are some of the clinical manifestations:

Pallor	tachycardia	hepatomegaly	lethargy,
Jaundice	tachypnea	splenomegaly	fatigue
blurred vision		dyspnea	Bone pain
glositis		smooth tongue	

2.2.6. Medical Management of Anemia

- Identifying and treating underlying cause
- Oxygen therapy in severe cases with respiratory distress symptoms
- Blood transfusion depending on severity and cause

- Drug therapy with nutritional supplements

2.2.7. Nursing Management of Anemia

Common nursing problems in clients with anemia are:

- Fatigue
- Altered nutrition less than body requirements
- In effective self-health management

2.2.8. Complications

- Heart arrhythmias
- Heart failure

2.2.9 Recommended readings

Carpenito, L.J. (2004). Nursing Diagnosis: Application to Clinical Practice.

Philadelphia, Lippincott Williams and Wilkins

Day, A.R., Paul, P., Williams, B., Smeltzer, S.C. and Bare, B. (2007). Brunner and Suddarths's Text Book of Medical-Surgical Nursing. (Canadian Ed.), Lippincott William and Wilkins: Philadelphia

Ignatavicius, D.D. and Workman, M.L., (2006), Medical-Surgical Nursing: Critical Thinking for Collaborative Care, (5th Ed.), Elsevier: Mosby

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Lewis, S.L., Heitkemper, M.M., Dirksen, S.R., O'Brien, P.G. and Bucler, L., (2007), Medical-Surgical Nursing: Assessment and Management of Clinical Problems. Mosby: St. Luis.

Smeltzer, S.C., Bare, B.G., Hinkle, J.L. and Cheever K.H. (2008). Brunner and Suddarths's Text Book of Medical-Surgical Nursing. (11th Ed.), Lippincott William and Wilkins: Philadelphia

UNIT 3: Nursing Clients with Chronic Respiratory Problems

3.1. Chronic Obstructive Pulmonary Diseases (COPD)

Learning Outcomes:

By the end of this section, the learner shall be able to:

- Define Chronic obstructive pulmonary disease
- Explain the etiology of chronic obstructive pulmonary disease
- Describe the pathophysiology of chronic obstructive pulmonary disease
- Clinical manifestations of chronic obstructive pulmonary disease
- Explain the medical management of chronic obstructive pulmonary disease
- Discuss the nursing management of chronic obstructive pulmonary disease
- Explain the complications of chronic obstructive pulmonary disease

Assessment criteria

To ensure that learners have attained the learning outcomes, learners shall be able to

- Utilize the nursing process in management of COPD clients
- Demonstrate application of the etiology and pathophysiology of COPD in management of clients presenting with COPD.

3.1.1. Definition

Chronic obstructive pulmonary disease or COPD is a disease that causes destruction of airways in the lungs. It defines conditions which consist of regular difficulty in expelling or exhaling air from the lungs. There are two major forms of COPD: chronic bronchitis and emphysema. Chronic bronchitis consists of a long term cough with mucus. Emphysema is a gradual destruction of the lungs. Most people who have COPD have a combination of these forms.

3.1.2. Etiology

- Major causes include:
- Smoking
- Air pollution
- Allergens
- Infection
- Autoimmunity
- Occupational exposure

- Chemical fumes
- Genetic predisposition
- Dust

3.1.3. Pathophysiology

Smoking and, seldom, other inhaled irritants, perpetuates an ongoing inflammatory response that results in airway narrowing and hyperactivity. Airways become edematous, excessive mucus production occurs and cilia function weakens. Patients face increasing difficulty clearing secretions with disease progression leading to chronic productive cough, wheezing and dyspnea.

The basic pathophysiologic process in COPD consists of increased resistance to airflow, loss of elastic recoil and decreased expiratory flow rate. The alveolar walls frequently break because of the increased resistance of air flows. The hyperinflated lungs flatten the curvature of the diaphragm and enlarge the rib cage. The altered configuration of the chest cavity places the respiratory muscles, including the diaphragm, at a mechanical disadvantage and impairs their force-generating capacity. Consequently, the metabolic work of breathing increases, and the sensation of dyspnea heightens.

3.1.4. Clinical Manifestations

- Productive cough
- Wheezing
- Shortness of breath
- Chest tightness

3.1.5. Medical Management

- ABGS
- Broncho dilators
- Antibiotics
- Corticosteroids
- Oxygen

- Education

3.1.6. Nursing Management

- Ineffective Airway Clearance related to bronchoconstriction, increased sputum production, ineffective cough, fatigue / decreased energy and bronkopulmonal infection.
 - Airway management
 - monitoring
- Ineffective Breathing Pattern related to shortness of breath, mucus, bronchoconstriction and airway irritants.
- Impaired Gas Exchange related to ventilation perfusion inequality.
 - oxygen therapy
 - promote improved gas exchange
- Activity Intolerance related to imbalance between supply with oxygen demand.
 - accomplish activities of living without dyspnea
 - improve activity tolerance
- Imbalanced Nutrition: Less than Body Requirements related to anorexia.
 - Nutrition management
- Disturbed Sleep Pattern related to discomfort, the setting position.
 - promote rest
 - promote conducive environment
- Self-Care Deficit Bathing / Hygiene, Dressing / Grooming, Feeding, toileting related secondary fatigue due to increased respiratory effort and the insufficiency of ventilation and oxygenation.
- Ineffective Individual Coping related to lack of socialization, anxiety, depression, low activity levels and inability to work.
 - Maintain improved gas exchange
- Knowledge Deficit related to lack of information, do not know the source of information.
 - education

3.1.7. Complications

- Respiratory failure and infection

3.1.8. Recommended readings

- Carpenito, L.J. (2004). Nursing Diagnosis: Application to Clinical Practice. Philadelphia, Lippincott Williams and Wilkins
- Day, A.R., Paul, P., Williams, B., Smeltzer, S.C. and Bare, B. (2007). Brunner and Suddarths's Text Book of Medical-Surgical Nursing. (Canadian Ed.), Lippincott William and Wilkins: Philadelphia
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- Lemone, P. and Burke, K., (2004), Medical-Surgical Nursing: Critical Thinking in Client Care, (3rd Ed.), Pearson Prentice Hall: New Jersey
- Lewis, S.M., Heitkemper, M.M. and Dikens, S.R., (2004), Medical-Surgical Nursing: Assessment and Management of Clinical Problems, (6th Ed.), St. Louis: Mosby
- Lewis, S.L., Heitkemper, M.M., Dirksen, S.R., O'Brien, P.G, and Bucler, L., (2007), Medical-Surgical Nursing: Assessment and Management of Clinical Problems. Mosby: St. Luis.
- Smeltzer, S.C., Bare, B.G., Hinkle, J.L. and Cheever K.H. (2008). Brunner and Suddarths's Text Book of Medical-Surgical Nursing. (11th Ed.), Lippincott William and Wilkins: Philadelphia

3.2. Tuberculosis (TB)

Learning Outcomes:

By the end of this section, the learner shall be able to:

- Define tuberculosis
- Explain the etiology of tuberculosis
- Describe the pathophysiology of tuberculosis
- Clinical manifestations of tuberculosis
- Explain the medical management of tuberculosis
- Discuss the nursing management of tuberculosis
- Explain the complications of tuberculosis

Assessment criteria

To ensure that learners have attained the learning outcomes, learners shall be able to

- Utilize the nursing process in management of clients with TB
- Demonstrate application of the etiology and pathophysiology of TB in management of clients presenting with TB.

3.2.1. Definition

Tuberculosis (TB) is an infectious bacterial disease caused by a bacterium called *Mycobacterium tuberculosis*, which most commonly affects the lungs but it can also affect organs in the central nervous system, lymphatic system, and circulatory system among others

3.2.2. Etiology

It is transmitted from person to person via inhalation or ingestion of infected droplets from persons with active disease. Incidence is greatest in crowded, poverty stricken environment. Those greater at risk include the immunocompromised or debilitated persons and persons with previous infection

3.2.3. Pathophysiology

When a person becomes infected with tuberculosis, the bacteria in the lungs multiply and cause pneumonia along with chest pain, coughing up blood, and a prolonged cough. In addition, lymph nodes near the heart and lungs become

enlarged. As the TB tries to spread to other parts of the body, it is often interrupted by the body's immune system. The immune system forms scar tissue or fibrosis around the TB bacteria, and this helps fight the infection and prevents the disease from spreading throughout the body and to other people. If the body's immune system is unable to fight TB or if the bacteria breaks through the scar tissue, the disease returns to an active state with pneumonia and damage to kidneys, bones, and the meninges that line the spinal cord and brain.

TB is generally classified as being either latent or active. Latent TB occurs when the bacteria are present in the body, but this state is inactive and presents no symptoms. Latent TB is also not contagious. Active TB is contagious and is the condition that can cause sickness with symptoms.

3.2.4. Clinical manifestations

- fatigue
- Coughing with sputum or blood
- Chest pains
- Weight loss
- Fever
- Night sweats.

3.2.5. Medical management

- Tuberculin test
- sputum
- chest X ray
- Anti TB drugs

3.2.6. Nursing Management

- Ineffective Airway Clearance related to bronchoconstriction, increased sputum production, ineffective cough, fatigue/decreased energy and bronchopulmonary infection.
 - Maintain patent airway
 - Airway management
 - Monitoring

- Ineffective Breathing Pattern related to shortness of breath, mucus, bronchoconstriction and airway irritants.
- Impaired Gas Exchange related to ventilation perfusion inequality.
 - Oxygen therapy
 - Promote improved gas exchange
- Activity Intolerance related to imbalance between supply with oxygen demand.
 - accomplish activities of living without dyspnea
 - improve activity tolerance
- Imbalanced Nutrition: Less than Body Requirements related to anorexia.
 - Nutrition management
- Disturbed Sleep Pattern related to discomfort, the setting position.
 - Promote rest
- Self-Care Deficit Bathing / Hygiene, Dressing / Grooming, Feeding, toileting related secondary fatigue due to increased respiratory effort and the insufficiency of ventilation and oxygenation.
- Ineffective Individual Coping related to lack of socialization, anxiety, depression, low activity levels and inability to work.
- Knowledge Deficit related to lack of information.
 - provide patient and family teaching
- Social isolation related to medically imposed isolation , fear of contagious disease
 - reduce social isolation
- High risk for infection transmission
 - prevent disease transmission
- Ineffective therapeutic regimen management related to lack of understanding of treatment and risk of reactivation, lack of financial resources
 - effective management of prescribed therapy
 - promote compliance to treatment

3.2.7. Complications

- Multidrug resistance TB
- Adult respiratory distress syndrome (ARDS)
- Lung failure
- Bone infection

- Heart failure

3.2.8. Learners activity

Do a self study on the following topics

- Corpulmonary
- Emphysema

3.2.8. Recommended reading

Carpenito, L.J. (2004). Nursing Diagnosis: Application to Clinical Practice.

Philadelphia, Lippincott Williams and Wilkins

Day, A.R., Paul, P., Williams, B., Smeltzer, S.C. and Bare, B. (2007). Brunner and Suddarths's Text Book of Medical-Surgical Nursing. (Canadian Ed.), Lippincott William and Wilkins: Philadelphia

Ignatavicius, D.D. and Workman, M.L., (2006), Medical-Surgical Nursing: Critical Thinking for Collaborative Care, (5th Ed.), Elsevier: Mosby (Chapter 1, from page 10)

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WHO Chronic respiratory diseases retrieved from

<http://www.who.int/respiratory/copd/en/> 17/09/2013

WHO Tuberculosis (TB) retrieved from <http://www.who.int/topics/tuberculosis/en/>

17/09/13

UNIT 4: Nursing Clients with Chronic Cardiovascular Disorders

4.1. Hypertension

Learning Outcomes:

By the end of this section, the learner shall be able to:

- Define hypertension
- Explain the etiology of hypertension
- Describe the pathophysiology of hypertension
- Clinical manifestations of hypertension
- Explain the medical management of hypertension
- Discuss the nursing management of hypertension
- Explain the complications of hypertension

Assessment criteria

To ensure that learners have attained the learning outcomes, learners shall be able to

- Utilize the nursing process in management of clients with hypertension
- Demonstrate application of the etiology and pathophysiology of hypertension in management of clients presenting with hypertension

4.1.1. Definition

Hypertension means the chronic elevation of blood pressure in the arteries through which the heart pumps blood to the other organs of the body with every heartbeat. This makes the heart work harder to pump the blood.

4.1.2. Etiology

The major cause is fast paced lifestyles and unhealthy eating habits including other illnesses or diseases such as diabetes, kidney disease and certain cancerous tumors. Contributing factors to hypertension include heredity, obesity, stress, aging, black race, male gender, sedentary life, noise, salt, high intake of fat, caffeine, tobacco and alcohol.

4.1.3. Pathophysiology

Hypertension usually begins as an intermittent process in late 30s to early 50s that gradually become permanent. Occasionally severe hypertension develops abruptly. Sensitivity to norepinephrine released at postganglionic nerve fibers of the sympathetic nervous system results in vasoconstriction due to cortisol and other steroids which are released from the adrenal cortex. Vasoconstriction results

in reduced blood flow to kidneys triggering release of rennin and leading to formation of angiotensin, a potent vasoconstrictor, secretion of aldosterone by adrenal cortex and retention of sodium and water by the renal tubules. The combination of vasoconstriction, and water and sodium retention results in elevated blood pressure.

Hypertension may be classified as essential (primary) or secondary. Essential hypertension is the term for high blood pressure with unknown cause. Secondary hypertension is the term for high blood pressure with a known direct cause, such as kidney disease or tumors.

4.1.4. Clinical manifestations

- Raised blood pressure readings
- Headaches
- Being tired all the time
- Blurred vision
- Nosebleeds
- Ringing in the ears
- Chest pain
- Irregular heartbeat
- Feeling of confusion on and off
- Heart failure

4.1.5. Medical management

- investigate and treat underlying cause
- Antihypertensive drugs
 - Vasodilators
 - Alpha Adrenergic inhibitors
 - Angiotensin converting enzyme (ACE) inhibitors
 - Angiotensin II receptor antagonists
 - Beta Adrenergic blockers
 - Calcium channel blockers
 - Diuretics
 - Direct rennin inhibitors
 - sedatives

- Glyceryl trinitrates.
- Angioplasty and stenting of the renal arteries.

4.1.6. Nursing Management

- Risk for Decreased Cardiac Output related to increased afterload, vasoconstriction, myocardial ischemia, ventricular hypertrophy
- Pain: headache related to increased cerebral vascular pressure
- Ineffective Tissue perfusion : cerebral, renal, cardiac related to circulatory disorder
- Knowledge Deficit related to lack of information about the disease process and self-care. education
- Ineffective coping related to depression secondary to drug side effects promote effective coping
- Ineffective therapeutic regimen management related to lack of knowledge about management of hypertension, drug side effects, difficulty maintaining lifestyle changes effectively manage prescribed treatment
- Risk for injury related to orthostatic hypotension secondary to antihypertensive drug therapy
 - Prevent injuries
- Sexual dysfunction related to side effects of drugs
 - Promote satisfactory sexual function

4.1.7. Complications

- Renal failure
- Aneurysm
- Heart failure
- Stroke
- Heart attack.
- Eye changes

4.1.8.Recommended reading

Carpenito, L.J. (2004). Nursing Diagnosis: Application to Clinical Practice.

Philadelphia, Lippincott Williams and Wilkins

Day, A.R., Paul, P., Williams, B., Smeltzer, S.C. and Bare, B. (2007). Brunner and

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4.2 Congestive Cardiac Failure (CCF)

Learning Outcomes:

By the end of this section, the learner shall be able to:

- Define congestive cardiac failure
- Explain the etiology of congestive cardiac failure
- Describe the pathophysiology of congestive cardiac failure
- Clinical manifestations of congestive cardiac failure
- Explain the medical management of congestive cardiac failure
- Discuss the nursing management of congestive cardiac failure
- Explain the complications of congestive cardiac failure

Assessment criteria

To ensure that learners have attained the learning outcomes, learners shall be able to

- Utilize the nursing process in management of clients with CCF
- Demonstrate application of the etiology and pathophysiology of CCF in management of clients presenting with CCF

4.2.1. Definition

Congestive Cardiac Failure also known as Congestive Heart Failure (CHF) is a condition when the heart as pump is no longer able to provide a good blood supply to meet the body's needs for the tissue metabolism. In some cases, the heart can't fill with enough blood and in other cases, the heart can't pump blood to the rest of the body with enough force. Sometimes both problems exist. It doesn't mean that the heart has stopped or is about to stop working.

4.2.2. Etiology

The leading causes of heart failure are diseases that produce decreased myocardial contractility eg myocardial infarction, valvular heart and disease coronary heart disease (CHD).

Other conditions are those that increase after-load e.g. high blood pressure and conditions that cause abnormalities in preload such as renal failure

4.2.3. Pathophysiology

Decreased myocardial contractility either weakens the heart muscle, stiffen the heart muscles, or increase oxygen demand by the body tissue beyond the capability of the heart to deliver adequate oxygen-rich blood. Heart failure develops over time as the heart's pumping action grows weaker. The condition can affect the right side of the heart only, or it can affect both sides of the heart. Most cases involve both sides of the heart.

Right-sided heart failure occurs if the heart can't pump enough blood to the lungs to pick up oxygen. Right-side heart failure results in systemic circulation congestion and this may cause fluid to build up in the feet, ankles, legs, liver, kidneys, abdomen, and the veins in the neck.

Left-sided heart failure occurs if the heart can't pump enough oxygen-rich blood to the rest of the body. Congestion occurs in the lungs from back up of blood into pulmonary veins and capillaries due to left ventricular pump failure. Right-side and left-side heart failure also may cause shortness of breath and fatigue (tiredness).

4.2.4. Clinical manifestations

- Cardinal signs are weakness and shortness of breath.
- Diminished exercise capacity: dyspnea while having activities
- Fatigue
- Orthopnea: dyspnea while lying
- Paroxysmal nocturnal dyspnea: an acute episode of heavy dyspnea, occurs at midnight or while sleeping and make patients awake, followed by dry cough and sometimes wheezing.
- Edema of peripheral and dependent pitting edema
- Moist crackles on lung auscultation
- Weight gain
- Distended neck veins
- Hepatomegaly

- Ascites
- Angina
- Tachycardia
- Altered mental status
- Anxiety

4.2.5. Medical management

- ECG
- ABGs
- Manage underlying cause
- Bed rest
- Oxygen therapy
- Diet control
- Drug therapy
 - Angiotensin converting enzyme (ACE) inhibitors
 - Diuretics
 - Beta Adrenergic blockers
 - Inotropes
 - venodilator
 - Vasodilators
 - antiarrhythmias.
- Surgery (valvuloplasty, valve replacement etc).

4.2.6 Nursing Management

Nursing Diagnosis for CCF

- Decrease Cardiac Output related to changes in myocardial contractility
- impaired gas exchange related to decreased pulmonary perfusion
- Activity Intolerance related to inability of the heart to meet oxygen demands
- Excess Fluid Volume related to ineffective cardiac pumping.
- Anxiety related to edema and difficulty breathing
- Risk for Impaired Skin Integrity related to bed rest, edema, decreased tissue perfusion.
- Knowledge deficit related to lack of information

4.2.7. Complications

- Dysrhythmias
- Pulmonary edema
- Cardiogenic shock

4.2.8. Recommended Reading

Carpenito, L.J. (2004). Nursing Diagnosis: Application to Clinical Practice.

Philadelphia, Lippincott Williams and Wilkins

Day, A.R., Paul, P., Williams, B., Smeltzer, S.C. and Bare, B. (2007). Brunner and Suddarths's Text Book of Medical-Surgical Nursing. (Canadian Ed.), Lippincott William and Wilkins: Philadelphia

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4.3. Cerebral Vascular Accident (CVA)

Learning Outcomes:

By the end of this section, the learner shall be able to:

- Define cerebral vascular accident
- Explain the etiology of cerebral vascular accident
- Describe the pathophysiology of cerebral vascular accident
- Clinical manifestations of cerebral vascular accident
- Explain the medical management of cerebral vascular accident
- Discuss the nursing management of cerebral vascular accident
- Explain the complications of cerebral vascular accident

Assessment criteria

To ensure that learners have attained the learning outcomes, learners shall be able to

- Utilize the nursing process in management of clients with CVA
- Demonstrate application of the etiology and pathophysiology of CVA in management of clients presenting with CVA.

4.3.1 Definition

A cerebral vascular accident also known as stroke is group of disorders which disrupt blood supply to the brain.

4.3.2. Etiology

CVA results from thrombosis, embolism and vessel rupture or spasm. Most common site is the middle cerebral artery. Risk factors include hypertension, diabetes, cardiac diseases, excessive alcohol, cigarette smoking, obesity, fat diet

4.3.3. Pathophysiology

Stroke is caused by sudden interruption of blood supply to part of the brain, usually because a blood vessel bursts or is blocked by a clot. This cuts off the supply of oxygen and nutrients, causing damage to the brain tissue and produces focal neurological deficits.

There are two main types of cerebrovascular accident: **ischemic stroke** and **hemorrhagic stroke**.

Ischemic Stroke

An ischemic stroke occurs when a blood clot blocks a blood vessel, preventing blood and oxygen from getting to a part of the brain. There are two ways that this can happen. When a clot forms somewhere else in the body and gets lodged in a brain blood vessel, it is called an embolic stroke. When the clot forms in the brain blood vessel, it is called a thrombotic stroke.

Hemorrhagic Stroke

A hemorrhagic stroke occurs when a blood vessel ruptures, or hemorrhages, which then prevents blood from getting to part of the brain. The hemorrhage may occur in a blood vessel in the brain, or in the membrane that surrounds the brain.

In both cases, part of the brain is deprived of blood and oxygen, causing the brain's cells to die.

4.3.4. Clinical manifestations

- Hemiplegia.
- Aphasia
- Difficulty seeing with one or both eyes
- Difficulty walking
- Dizziness
- Bladder impairment
- respiratory impairment
- impaired mental ability
- Loss of balance or coordination
- Severe headache with no known cause
- Fainting or unconsciousness.

4.3.5. Medical management

- Electrocardiograph (ECG)
- Ultrasonography
- Cerebral angiography

- Radiography
- Drug therapy
 - Corticosteroids
 - Hyperosmotic agents
 - Anticoagulants
 - Thrombolytics
 - Calcium channel blockers

4.3.6. Nursing Management

- Ineffective airway clearance related to impaired cough reflex, altered cough reflex, altered consciousness, impaired swallowing
- Ineffective breathing pattern related to impaired cerebral circulation, increased intracranial pressure
- Impaired physical mobility related to motor impairment
- Impaired verbal communication related to aphasia
- Risk for injury related to impaired mental and motor activity
- Risk for deficient fluid volume related to inadequate intake
- Self care deficit (feeding, elimination, dressing, grooming, bathing and hygiene) related to sensory and motor impairment
- Risk for impaired skin integrity
- Social isolation

4.3.7. Complications

- Deep vein thrombosis
- Infection
- Dysphagia
- Cognitive impairment.
- Contractures, joint deformities
- Sudden death.

4.4. Coronary Heart Disease

Learning Outcomes:

By the end of this section, the learner shall be able to:

- Define coronary heart disease
- Explain the etiology of coronary heart disease
- Describe the pathophysiology of coronary heart disease
- Clinical manifestations of coronary heart disease
- Explain the medical management of coronary heart disease
- Discuss the nursing management of coronary heart disease
- Explain the complications of coronary heart disease

Assessment criteria

To ensure that learners have attained the learning outcomes, learners shall be able to

- Utilize the nursing process in management of clients with coronary heart disease
- Demonstrate application of the etiology and pathophysiology of coronary heart disease in management of clients presenting with the disease

4.4.1 Definition

Coronary Heart Disease also referred to as Coronary Artery Disease (CAD) is a condition in which plaque builds up inside the coronary arteries.

4.4.2. Etiology

- Smoking
- High levels of certain fats and cholesterol in the blood
- High blood pressure
- High levels of sugar in the blood due to insulin resistance or diabetes
- Blood vessel inflammation
- Overweight or obesity
- Lack of physical activity
- Unhealthy diet
- Older age
- Family history

4.4.3. Pathophysiology

Coronary arteries are arteries that supply heart muscle with oxygen-rich blood. Plaque is made up of fat, cholesterol, calcium, and other substance found in the blood. Plaque narrows the arteries and reduces blood flow to heart muscle. It also makes it more likely that blood clots will form in arteries. Blood clots can partially or completely block blood flow. When coronary arteries are narrowed or blocked, oxygen-rich blood can't reach heart muscle. This can cause angina or a heart attack. Without quick treatment, a heart attack can lead to serious problems such as heart failure and even death.

4.4.4. Clinical manifestations

- Some people who have CHD have no signs or symptoms—a condition called silent CHD.
- Chest discomfort which may be described as: heavy pressure, burning sensation, or squeezing or tightness.
- Fearful and apprehension during acute attack
- Lungs: clear to percussion and auscultation, possibility of lung crepitation during an acute attack.
- Heart: irregular rhythm during an acute attack

4.4.5. Medical management

- EKG (Electrocardiogram)
- Stress Testing
- Echocardiography
- Chest X Ray
- Blood Tests
- Coronary Angiography and Cardiac Catheterization
- Lifestyle changes
- Medications:
- Medications to modify cholesterol levels
- Low-dose aspirin and clot-busting medication
- Beta
- Beta blockers

- Nitroglycerin
- ACE (angiotensin-converting enzyme) inhibitors
- Calcium channel blockers
- **Surgery** - if fatty deposit build-up has left the blood vessels very narrow, or if symptoms are not responding well enough to medications, surgery may be required to open up or replace blocked arteries.
- Percutaneous coronary revascularization (angioplasty and stent placement)
- Coronary bypass surgery
- Heart transplant
- Laser surgery

4.4.6. Nursing Management

- Decreased cardiac output r/t increased vascular resistance
- Ineffective tissue perfusion r/t decreased cardiac output
- Acute Pain
- Activity Intolerance
- Fatigue
- Health Promotion and Education

Acute Needs

Assessment: of pain, history, activity

Pain:

Care during anginal attack:

- oxygen therapy
- Vitals, ECG
- Pain relief with Nitrate (& narcotic analgesic if ordered)
- Assessment of heart and breath sounds

- Patient comfort
- Assessment of patient response to therapy

4.4.7. Complications

- Angina
- Coronary thrombosis
- Heart attack
- Coronary insufficiency
- Heart failure

4.4.8. Learners activity

Do a self study on the following topics

- *Deep venous thrombosis*
- *Thrombophlebitis*

4.4.9. Recommended reading

Carpenito, L.J. (2004). Nursing Diagnosis: Application to Clinical Practice.

Philadelphia, Lippincott Williams and Wilkins

Day, A.R., Paul, P., Williams, B., Smeltzer, S.C. and Bare, B. (2007). Brunner and Suddarths's Text Book of Medical-Surgical Nursing. (Canadian Ed.), Lippincott

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UNIT 5: Nursing Clients with Neurologic Disorders

5.1: Epilepsy

Learning Outcomes:

By the end of this section, the learner shall be able to:

- Define epilepsy
- Explain the etiology of epilepsy
- Describe the pathophysiology of epilepsy
- Clinical manifestations of epilepsy
- Explain the classification of seizures
- Explain the medical management of epilepsy
- Discuss the nursing management of epilepsy
- Explain the complications of epilepsy

Assessment criteria

To ensure that learners have attained the learning outcomes, learners shall be able to

- Utilize the nursing process in management of clients with epilepsy
- Demonstrate application of the etiology and pathophysiology of epilepsy in management of clients with epilepsy

5.1.1. Definition

“Epilepsy is a condition in which a person has spontaneous recurring seizures caused by a chronic underlying condition” (Lewis et al, 2011, p. 1492)

5.1.2. Etiology

Epilepsy seizures are believed to originate from a group of abnormal neurons (seizure focus), heredity and sometimes unknown.

5.1.3. Pathophysiology

Stimulation by any factor causes the cell membrane of neurons to depolarize resulting in spontaneous firing. Scar tissue in the brain may also interfere with the chemical and structural environment of brain neurons resulting in abnormal firing

5.1.4. Clinical manifestations

Seizures progress through the following phases:

- prodromal
- aural
- ictal

- postictal

Classification of seizures

1. Generalized (nonfocal origin)
 - Tonic-clonic seizures
 - Absence seizures
 - Myoclonic seizures
 - Tonic seizures
 - Atonic seizures
 - Clonic seizures
2. Partial seizures
 - Simple partial seizures
 - Complex partial seizures
3. Psychogenic seizures

5.1.5. Medical management

- Anti-seizure drugs
- Surgery
- Vagal nerve stimulation
- Psychosocial counseling

5.1.6. Nursing Management

During seizure

- Maintain patent airway
- Control seizure
- Prevent injury

After seizure

- Prevent seizure recurrence
- Enhance coping
- Teach about disease process

5.1.7. Complications

- Status epilepticus
- Severe injury or death from trauma suffered during a seizure
- Psychosocial effects

5.1.8. Learners activity

Do a self-study on the following Chronic Neurologic problems

Migraine headaches

Parkinson's disease

Multiple sclerosis

Slip disc

5.1.9. Recommended readings

Carpenito, L.J. (2004). Nursing Diagnosis: Application to Clinical Practice.

Philadelphia, Lippincott Williams and Wilkins

Day, A.R., Paul, P., Williams, B., Smeltzer, S.C. and Bare, B. (2007). Brunner and Suddarths's Text Book of Medical-Surgical Nursing. (Canadian Ed.), Lippincott William and Wilkins: Philadelphia

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UNIT 6: Endocrine Disorders

6.1 Hyperthyroidism

Learning Outcomes:

By the end of this section, the learner shall be able to:

- Define hyperthyroidism
- Explain the etiology of hyperthyroidism
- Describe the pathophysiology of hyperthyroidism
- Clinical manifestations of hyperthyroidism
- Explain the medical management of hyperthyroidism
- Discuss the nursing management of hyperthyroidism
- Explain the complications of hyperthyroidism

Assessment criteria

To ensure that learners have attained the learning outcomes, learners shall be able to

- Utilize the nursing process in management of clients with hyperthyroidism
- Demonstrate application of the etiology and pathophysiology of hyperthyroidism in management of clients with hyperthyroidism

6.1.1. Definition

Hyperthyroidism is the hyperactivity of the thyroid gland resulting in the increase in the synthesis and release of thyroid hormones (Lewis et al, 2011).

6.1.2. Etiology

- Grave's disease
- Toxic nodular goiter

6.1.3. Pathophysiology

Clients with Grave's disease develop antibodies to Thyroid Stimulating Hormone (TSH) receptor. These antibodies stimulate the thyroid gland to release excessive thyroid hormones (T3, T4). While in clients with toxic nodular goiter, they have thyroid secreting hormones that function independent of the TSH (Lewis et al, 2011).

6.1.4. Clinical manifestations

- Goiter
- Exophthalmos
- Weight loss

- Heart palpitations
- tremors

6.1.5. Medical management

- Antithyroid medications
- Radioactive iodine therapy
- Surgical therapy
- Nutritional therapy

6.1.6. Nursing Management

- Acute thyrotoxicosis
 - Intensive Care Unit nursing
 - Administration of drugs (antithyroid, beta adrenergic blockers)

- Thyroid surgery clients

Preoperatively

- Iodine treatment
- Patient teaching

Postoperatively

- Close monitoring
- Proper positioning
- Pain control
- Early ambulation
- Nutritional management

6.1.7. Complications

- Thyrotoxicosis

6.2 Hypothyroidism

Learning Outcomes:

By the end of this section, the learner shall be able to:

- Define hypothyroidism
- Explain the etiology of hypothyroidism
- Describe the pathophysiology of hypothyroidism
- Clinical manifestations of hypothyroidism
- Explain the medical management of hypothyroidism
- Discuss the nursing management of hypothyroidism
- Explain the complications of hypothyroidism

Assessment criteria

To ensure that learners have attained the learning outcomes, learners shall be able to

- Utilize the nursing process in management of clients with hypothyroidism
- Demonstrate application of the etiology and pathophysiology of hypothyroidism in management of clients with hypothyroidism

6.2.1. Definition

Hypothyroidism is a condition in which there is insufficient circulating thyroid hormone in the body (Lewis et al, 2011).

6.2.2. Etiology

- Iron deficiency
- Thyroid gland atrophy
- Drugs

6.2.3. Pathophysiology

Abnormalities of the thyroid gland results in decreased thyroid hormone synthesis. Disease of the pituitary gland or hypothalamic dysfunction may also result in decreased thyroid hormone synthesis.

6.2.4. Clinical manifestations

- Fatigue and lethargy
- Personality and mental changes
- Decreased cardiac contractility and output
- Anemia
- Decreased gastrointestinal motility

- Myxedema
- Menstrual irregularities and infertility
- Cold intolerance, hair loss, dry and coarse hair, brittle nails, muscle weakness and swelling, weight gain

6.2.5. Medical management

Thyroid hormone replacement therapy

6.2.6. Nursing Management

Acute management for myxedema coma

- Intensive care unit nursing
- Monitoring patients progress
- Cardiac assessment
- Monitoring energy level and mental alertness

Patient teaching on disease process and drug therapy

7.2.5. Complications

Myxedema coma

6.3 Diabetes Mellitus

Learning Outcomes:

By the end of this section, the learner shall be able to:

- Define diabetes mellitus
- Explain the etiology of diabetes mellitus
- Describe the pathophysiology of diabetes mellitus
- Clinical manifestations of diabetes mellitus
- Explain the medical management of diabetes mellitus
- Discuss the nursing management of diabetes mellitus
- Explain the complications of diabetes mellitus

Assessment criteria

To ensure that learners have attained the learning outcomes, learners shall be able to

- Utilize the nursing process in management of clients with diabetes mellitus
- Demonstrate application of the etiology and pathophysiology of diabetes mellitus in management of clients with diabetes mellitus.

6.3.1. Definition

Diabetes mellitus is a chronic disease that involves multiple systems related to abnormal insulin production and/or impaired insulin utilization (Lewis et al, 2011).

6.3.2. Etiology

- Autoimmune disorders
- Genetics
- Environmental factors

Types of diabetes

- Type 1 diabetes mellitus
- Type 2 diabetes mellitus
- Gestational diabetes

6.3.3. Pathophysiology

Type 1 diabetes mellitus

The body's autoimmunity causes destruction of pancreatic beta cells resulting in lack of insulin. This results in hyperglycemia (Lewis et al, 2011).

Type 2 diabetes mellitus

The pancreas produces insulin that is either insufficient and/or poorly utilized by the body (Lewis et al, 2011).

6.3.4. Clinical manifestations

- Polyuria
- Polydipsia
- Polyphagia
- Weight loss
- Fatigue
- Recurrent infections
- Vaginal yeast or candida infections
- Visual changes

6.3.5. Medical management

- Insulin therapy
- Oral antiglycemic agents
- Nutritional therapy
- Exercise
- Monitoring of blood glucose

6.3.6. Nursing Management

- Teaching on disease process
- Administering prescribed diet
- Assisting with prescribed exercise
- Management of hyperglycemia
- Management of hypoglycemia
- Foot care

6.3.7. Complications

Diabetic ketoacidosis

Diabetic retinopathy

Hyperosmolar hyperglycemic syndrome

Nephropathy

Hypoglycemia

Foot ulceration

Angiopathy

Infection

Neropathy

Mental illness

6.3.8. Learners activity

Do a self-study on the following endocrine problems

Cushing syndrome

Addison's disease

Hyperaldosteronism

6.3.9. Recommended reading

Carpenito, L.J. (2004). Nursing Diagnosis: Application to Clinical Practice.

Philadelphia, Lippincott Williams and Wilkins

Day, A.R., Paul, P., Williams, B., Smeltzer, S.C. and Bare, B. (2007). Brunner and Suddarths's Text Book of Medical-Surgical Nursing. (Canadian Ed.), Lippincott William and Wilkins: Philadelphia

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UNIT 7: Genitourinary Disorders

7.1 Benign Prostatic Hypertrophy (BPH)

Learning Outcomes:

By the end of this section, the learner shall be able to:

- Define benign prostrate hypertrophy
- Explain the etiology of benign prostrate hypertrophy
- Describe the pathophysiology of benign prostrate hypertrophy
- Clinical manifestations of benign prostrate hypertrophy
- Explain the medical management of benign prostrate hypertrophy
- Discuss the nursing management of benign prostrate hypertrophy
- Explain the complications of benign prostrate hypertrophy

Assessment criteria

To ensure that learners have attained the learning outcomes, learners shall be able to

- Utilize the nursing process in management of clients with BPH
- Demonstrate application of the etiology and pathophysiology of BPH in management of clients with BPH

7.1.1. Definition

Benign Prostatic Hypertrophy (BPH) is a benign enlargement of the prostate gland

7.1.2. Etiology

Etiology is not known but it is believed to be hormone dependent where male hormones stimulate its growth and enlargement

7.1.3. Pathophysiology

Enlarged prostate obstructs urine outflow leading to urinary retention, stasis and infection

7.1.4. Clinical manifestations

- *Before Operation*
 - urgency
- frequency
- hesitancy
- decreased urine stream
- dribbling
- enlarged firm prostate

- Painful urinating.
- Difficult urination.
- Not satisfied after micturition, the bladder does not empty properly.
- Urine continues dripping after urination.
- Feeling tired, no appetite, nausea and vomiting.

After Surgery

- Pain
- Closed postoperative wound dressing
- Weakness
- Installed irrigation tubes, catheters, infusion

7.1.5. Medical management

- Radiographic Examination
- Urinalysis
- Lab such as blood chemistry, complete blood, urine
- Surgery-prostatectomy

7.1.6. Nursing Management

pre operatively

- Impaired urinary elimination related to obstruction
- Promote emptying of bladder
- Anxiety related to invasive diagnostic and therapeutic procedures
- Allay anxiety
- Acute pain

Post operatively

- Risk for haemorrhage related to surgery
 - Monitor irrigation
- Acute pain related to tissue trauma and bladder spasms
 - Relieve pain

- Risk for infection related to invasive procedures of urinary tract and catheterization
 - Maintain infection free status
- Risk for injury related to obstructed urine flow or trauma to urinary sphincter
 - Prevent injuries
- Sexual dysfunction related to removal of prostate or retrograde ejaculation
- Promote understanding of physiologic effects of prostatectomy
- Knowledge deficit of postoperative routines and self-care activities
 - Promote understanding of post-operative routines
- Patient and family teaching

7.1.7. Complications

- Urinary tract infection
- Bladder stones
- Rupture blood vessels in the urethra, causing blood to appear in the urine.
- Acute urinary retention
- Kidney failure.

7.2 Chronic Renal Failure

Learning Outcomes:

By the end of this section, the learner shall be able to:

- Define chronic renal failure
- Explain the etiology of chronic renal failure
- Describe the pathophysiology of chronic renal failure
- Clinical manifestations of chronic renal failure
- Explain the medical management of chronic renal failure
- Discuss the nursing management of chronic renal failure
- Explain the complications of chronic renal failure

Assessment criteria

To ensure that learners have attained the learning outcomes, learners shall be able to

- Utilize the nursing process in management of clients with chronic renal failure
- Demonstrate application of the etiology and pathophysiology of epilepsy in management of clients with chronic renal failure

7.2.1. Definition

Chronic renal failure, also known as chronic kidney disease (CKD), is a slow and progressive decline of kidney function usually a result of a complication from another serious medical condition.

7.2.2. Etiology

Diabetes and high blood pressure are the two most common causes and account for most cases. Other causes include:

- Chronic glomerulonephritis
- Recurring pyelonephritis (kidney infection)
- Polycystic kidney disease (multiple cysts in the kidneys)
- Autoimmune disorders such as systemic lupus erythematosus
- Hardening of the arteries, which can damage blood vessels in the kidney
- Urinary tract blockages and reflux, due to frequent infections, stones, or an anatomical abnormality that happened at birth
- Excessive use of medications that are metabolized through the kidneys

7.2.3. Pathophysiology

End products of metabolism accumulating in blood causes metabolic acidosis and interferes with

7.2.4 Clinical manifestations

- Increased urination, especially at night
- Decreased urination
- Blood in the urine (not a common)
- Urine that is cloudy or tea-coloured
- Puffy eyes, hands, and feet
- High blood pressure
- Fatigue
- Shortness of breath
- Loss of appetite
- Thirst
- Bad taste in the mouth or bad breath
- Weight loss
- Generalized, persistent itchy skin
- Muscle twitching or cramping
- A yellowish-brown tint to the skin
- Seizures and mental confusion can result as the kidney failure gets worse and the toxins continue to build up in the body.

7.2.5. Medical management

- Dialysis: Dialysis is a process that removes excess fluids and waste using a membrane instead of a kidney as a filter. There are two types of dialysis: *peritoneal dialysis* and *hemodialysis*.
- Kidney transplant

7.2.6. Nursing Management

- Diet changes
- Fluid intake restriction.
- Medications

7.2.7. Complications

- Anemia
- Hypertension
- Increased risk of bleeding
- Increased risk of infection
- Fluid overload
- Dehydration
- Electrolyte abnormalities e.g., *hyperkalemia*
- Mineral abnormalities (e.g., hypercalcemia, *hyperphosphatemia*)
- Brittle bones
- Malnutrition
- Seizures

7.2.8. Recommended reading

Carpenito, L.J. (2004). Nursing Diagnosis: Application to Clinical Practice.

Philadelphia, Lippincott Williams and Wilkins

Day, A.R., Paul, P., Williams, B., Smeltzer, S.C. and Bare, B. (2007). Brunner and Suddarths's Text Book of Medical-Surgical Nursing. (Canadian Ed.), Lippincott William and Wilkins: Philadelphia

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UNIT 8: Gastrointestinal Disorders

8.1 Hepatitis

Learning Outcomes:

By the end of this section, the learner shall be able to:

- Define hepatitis
- Explain the etiology of hepatitis
- Describe the pathophysiology of hepatitis
- Clinical manifestations of hepatitis
- Explain the medical management of hepatitis
- Discuss the nursing management of hepatitis
- Explain the complications of hepatitis

Assessment criteria

To ensure that learners have attained the learning outcomes, learners shall be able to

- Utilize the nursing process in management of clients with hepatitis
- Demonstrate application of the etiology and pathophysiology of hepatitis in management of clients with hepatitis

8.1.1 Definition

Hepatitis is the inflammation of the liver (Lewis et al, 2011).

8.1.2. Etiology

- Viruses (hepatitis A, B, C, D, E, G)
- Drugs
- Alcohol
- Chemicals
- Autoimmune diseases

8.1.3. Pathophysiology

Infection from viruses, irritation from drugs and alcohol, or fight from the body's own white blood cells result in inflammation of the liver.

8.1.4 Clinical manifestations

a. Acute phase

Anorexia	Decreased sense of taste, smell	Arthralgias
Nausea, vomiting	Malaise	Urticaria
Right upper quadrant discomfort	Headaches	Hepatomegaly

Constipation or diarrhea

Fever

weight loss

Jaundice

Pruritis

Dark urine

Splenomegaly

Bilirubinuria

Light stools

b. Chronic phase

- Malaise
- Fatigue
- Hepatomegaly
- Myalgias
- Arthralgias
- Elevated liver enzymes

8.1.5. Medical management

- Nutrition
- Vitamin supplements
- Rest
- Alcohol and drug restriction
- Interferon
- Antiretroviral therapy (viral Hepatitis)

8.1.6. Nursing Management

- Nutrition
- Support for activity intolerance
- Health education related to disease process and management
- Management of any other presenting clinical manifestations

8.1.7. Complications

Liver cirrhosis

8.2 Liver Cirrhosis

Learning Outcomes:

By the end of this section, the learner shall be able to:

- Define liver cirrhosis
- Explain the etiology of liver cirrhosis
- Describe the pathophysiology of liver cirrhosis
- Clinical manifestations of liver cirrhosis
- Explain the medical management of liver cirrhosis
- Discuss the nursing management of liver cirrhosis
- Explain the complications of liver cirrhosis

Assessment criteria

To ensure that learners have attained the learning outcomes, learners shall be able to

- Utilize the nursing process in management of clients with liver cirrhosis
- Demonstrate application of the etiology and pathophysiology of liver cirrhosis in management of clients with liver cirrhosis

8.2.1. Definition

A chronic disease of the liver characterized by extensive degeneration and destruction of liver parenchymal cells (Lewis et al, 2011).

8.2.2. Etiology

- Any chronic liver disease
- Excessive intake of alcohol

8.2.3. Pathophysiology

Chronic inflammation and cell necrosis of the liver from liver disease or alcohol result in fibrosis of liver cells then cirrhosis (Lewis et al, 2011).

8.2.4. Clinical manifestations

Early manifestations

- Anorexia
- Dyspepsia
- Flatulence
- Nausea and vomiting
- Diarrhoea or constipation

Late manifestations

- Jaundice
- Skin lesions
- Hematologic problems (thrombocytopenia, leukopenia, anemia and coagulation disorders)
- Endocrine problems (**men:** gynecomastia, loss of axillary and pubic hair, testicular atrophy, impotence. **Women:** amenorrhea, vaginal bleeding)
- Peripheral neuropathy

8.2.5. Medical management

Conservative therapy

- Rest
- Vitamin B complex
- Alcohol restriction
- Non-Steroid Anti-inflammatory Drugs (NSAID) restriction

Ascites

- Low sodium diet
- Diuretics
- Paracentesis
- Peritoneovenous shunt

Esophagel and gastric varices

- Drug therapy (beta blockers, Vasopressin)
- Surgery

Hepatic encephalopathy

- Antibiotics

8.2.6. Nursing Management

- Nutrition
- Skin care
- Fluid and electrolyte management
- Prevention and/or management of hemorrhage
- Prevention and/or management of hepatic encephalopathy
- Anxiety management (client and family)
- Health education

8.2.7. Complications

- Portal hypertension
- Esophageal and gastric varices
- Peripheral oedema and Ascites
- Hepatic encephalopathy
- Hepatorenal syndrome
- Hepatocellular carcinoma
- Sepsis

8.2.8. Recommended readings

Grattagliano, I., Ubaldi, E., Bonfrate, L., and Portincasa, P., 2011, Management of liver cirrhosis between primary care and specialists, *World journal of Gastroenterology*, 17 (18), 2273-2282. Retrieved from:
<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3098395/>

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Ed). St. Louis: Mosby

8.3 Peptic Ulcer Disease (PUD)

Learning Outcomes:

By the end of this section, the learner shall be able to:

- Define peptic ulcer disease
- Describe types of peptic ulcer disease
- Explain the etiology of peptic ulcer disease
- Describe the pathophysiology of peptic ulcer disease
- Clinical manifestations of peptic ulcer disease
- Explain the medical management of peptic ulcer disease
- Discuss the nursing management of peptic ulcer disease
- Explain the complications of peptic ulcer disease

Assessment criteria

To ensure that learners have attained the learning outcomes, learners shall be able to

- Utilize the nursing process in management of clients with PUD
- Demonstrate application of the etiology and pathophysiology of PUD in management of clients with PUD

8.3.1. Definition

Peptic ulcer is an erosion of the gastro intestinal mucosa from digestive action of hydrochloric acid (HCl) and pepsin (Lewis et al, 2011).

8.3.2. Types of peptic ulcer disease

- Acute peptic ulcers
- Chronic peptic ulcers

8.3.3. Etiology

- HCl
- Non-Steroid Anti-inflammatory drugs (NSAID)
- Helicobacter pylori (H. pylori)

8.3.4. Pathophysiology

The action of HCl, NSAID, H. Pylori or other chemical substances causes a breakdown in the gastric mucosa barrier. This results in acid back-diffusion into the mucosa leading to release of histamine and destruction of mucosal cell wall. Then there is an increase in acid and pepsin release which cause mucosal erosion, destruction of blood vessels, bleeding and ulceration. The release of histamine also cause increased vasodilatation, increased capillary permeability resulting to

loss of plasma proteins into gastric lumen and mucosal oedema (Lewis et al, 2011).

8.3.5. Clinical manifestations

- Burning or cramping like pain in the midepigastrium region
- Pain in the epigastrium occurring on an empty stomach or 1 to 2 hours after meals
- Back pain
- Presence of an ulcer seen on endoscopy

8.3.6. Medical management

- Conservative management
- Dietary change
- Anti acids
- Histamine H₂-receptor antagonists
- Anti-secretory agents
- Anti-choligernics
- Antibiotics
- Discontinue NSAIDs

8.3.7. Nursing Management

Nursing management depends on presenting symptoms. The following are some of the nursing problems that may be present

- Pain
- Anxiety
- Knowledge deficit
- Potential complication: hemorrhage
- Potential complication: perforation of GI mucosa

8.3.8. Complications

- Hemorrhage
- Perforation
- Gastric outlet obstruction

8.4. Stomas (Colostomy and ileostomy)

Learning Outcomes:

By the end of this section, the learner shall be able to:

- Define stoma
- Describe types of stoma
- Explain the indications of stoma surgery
- Explain the preoperative and postoperative care for a client with a stoma

Assessment criteria

To ensure that learners have attained the learning outcomes, learners shall be able to

- Utilize the nursing process in management of clients with stoma
- Demonstrate competence in conducting colostomy care

8.4.1. Definition

- A stoma is an opening where the intestine is brought through the abdominal wall.
- A stoma is created through surgery to divert fecal matter out of the abdomen through that opening.

8.4.2. Types of stomas

- **Ileostomy** – a stoma from the ileum through the abdominal wall
- **Colostomy** – a stoma between the colon and abdominal wall. Can be temporally or permanent

8.4.3. Indications for creating a stoma

- Perforating diverticulitis
- Trauma
- Tumours/cancer
- Bowel obstruction

8.4.5. Pre-operative care

- Psychological care (to patient and family)
- Patient and family education
- Other physical care as indicated

8.4.6. Postoperative care

- Stoma assessment
- Colostomy/ileostomy care
- Colostomy/ileostomy irrigation
- Psychological care

8.4 Hemorrhoids

Learning Outcomes:

By the end of this section, the learner shall be able to:

- Define hemorrhoids
- Explain the etiology of hemorrhoids
- Describe the pathophysiology of hemorrhoids
- Clinical manifestations of hemorrhoids
- Explain the medical management of hemorrhoids
- Discuss the nursing management of hemorrhoids
- Explain the complications of hemorrhoids

Assessment criteria

To ensure that learners have attained the learning outcomes, learners shall be able to

- Utilize the nursing process in management of clients with hemorrhoids
- Demonstrate application of the etiology and pathophysiology of hemorrhoids in management of clients with hemorrhoids

8.5.1. Definition

Hemorrhoids are dilated hemorrhoidal veins and can be external or internal (Lewis et al, 2011).

8.5.2. Etiology

- Pregnancy
- Constipation
- Heavy lifting
- Prolonged standing or sitting
- Portal hypertension

8.5.3. Pathophysiology

Hemorrhoids occur when blood flow in the hemorrhoidal plexus is impaired and may become constricted and painful (Lewis et al, 2011).

8.5.4. Clinical manifestations

Internal

- Pain
- Bleeding

External

- Reddish blue distended veins

8.5.5. Medical management

- Ointments for pain relief
- High fiber diet
- Increase fluid intake
- Hemorrhoidectomy

8.5.6. Nursing Management

Nursing management may be based on the following nursing problems

- Pain
- Knowledge deficit

8.5.7. Complications

- Thrombosed hemorrhoids

8.5.8. Learners activity

Do a self study on the following conditions

- *Anorexia nervosa*
- *Cholecystitis*
- *Anal fissures*
- *Anal fistulas*

8.5.9. Recommended readings

Carpenito, L.J. (2004). Nursing Diagnosis: Application to Clinical Practice.

Philadelphia, Lippincott Williams and Wilkins

Day, A.R., Paul, P., Williams, B., Smeltzer, S.C. and Bare, B. (2007). Brunner and Suddarths's Text Book of Medical-Surgical Nursing. (Canadian Ed.), Lippincott William and Wilkins: Philadelphia

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Suddarths's Text Book of Medical-Surgical Nursing. (11th Ed.), Lippincott
William and Wilkins: Philadelphia

UNIT 9: Nursing Clients with Chronic Musculoskeletal Problems

9.1. Chronic Osteomyelitis

Learning Outcomes:

By the end of this unit, the learner shall be able to:

- Define chronic osteomyelitis
- Explain the etiology of chronic osteomyelitis
- Describe the pathophysiology of chronic osteomyelitis
- Clinical manifestations of chronic osteomyelitis
- Explain the medical management of chronic osteomyelitis
- Discuss the nursing management of chronic osteomyelitis
- Explain the complications of chronic osteomyelitis

Assessment criteria

To ensure that learners have attained the learning outcomes, learners shall be able to

- Utilize the nursing process in management of clients with chronic osteomyelitis
- Demonstrate application of the etiology and pathophysiology of chronic osteomyelitis in management of clients with chronic osteomyelitis

9.1.1. Definition

Chronic osteomyelitis is a severe, persistent, and sometimes incapacitating infection of bone and bone marrow. It is often a recurring condition because it is difficult to treat definitively.

9.1.2. Etiology

- Inadequate treatment of acute osteomyelitis
- A hematogenous type of osteomyelitis
- Trauma
- Iatrogenic causes such as joint replacements and the internal fixation of fractures
- Compound fractures
- Infection with organisms, such as *Mycobacterium tuberculosis* and *Treponema* species (syphilis)
- Contiguous spread from soft tissues, as may occur with diabetic ulcers or ulcers associated with peripheral vascular disease

9.1.3. Pathophysiology

Risk factors include

- Gender
- Age
- Infection risk
- Patients with circulation problems
- Injuries.
- Bone surgery

9.1.4. Clinical manifestations

- Affected area is tender
- Affected area may be red
- Affected area may look strange, possibly deformed
- Bone pain in the affected area
- Chronic fatigue
- Instability in the affected area
- Loss of movement in the affected area
- Near the area of infection there may be drainage from an open wound

9.1.5. Medical management

- Antibiotics

Surgery

- Draining the infected area
- Debridement
- Restoring blood flow to the bone
- Removal of foreign objects
- Stabilizing the affected bone

9.1.6. Nursing Management

- Acute pain related to inflammation and swelling
 - Relieve pain

- Impaired Physical Mobility related to pain and limitation of the load weight
 - Improvement of physical mobility within the limits of therapeutic
- Risk for Infection related to abscess formation and skin damage
 - Infection control
- Knowledge deficit
 - Patient teaching

9.1.7. Complications

- Recurring chronic osteomyelitis
- Amputation

9.2 Arthritis

Learning Outcomes:

By the end of this section, the learner shall be able to:

- Define arthritis
- Explain the etiology of arthritis
- Describe the pathophysiology of arthritis
- Clinical manifestations of arthritis
- Explain the medical management of arthritis
- Discuss the nursing management of arthritis
- Explain the complications of arthritis

Assessment criteria

To ensure that learners have attained the learning outcomes, learners shall be able to

- Utilize the nursing process in management of clients with arthritis
- Demonstrate application of the etiology and pathophysiology of arthritis in management of clients with arthritis

9.2.1. Definition

Arthritis is a common condition that causes pain and inflammation within a joint

9.2.2. Etiology

- Trauma to the joint
- Infection of the joint
- Aging
- Autoimmunity
- Genetics

9.2.3. Pathophysiology

There are many different types of arthritis that cause a wide range of symptoms. Two of the most common are osteoarthritis and rheumatoid arthritis. Osteoarthritis occurs when the cartilage between bones gradually wastes away, leading to painful rubbing of bone on bone in the joints. The most frequently affected joints are in the hands, spine, knees and hips.

Rheumatoid arthritis is a more severe, but less common, form of arthritis than osteoarthritis. It occurs when the body's immune system attacks and destroys the affected joints, causing pain and swelling to occur. This can lead to a reduction in movement and the breakdown of bone and cartilage.

- Other forms of arthritis are Gout and pseudo-gout, Septic arthritis, Ankylosing spondylitis, Juvenile idiopathic arthritis, Still's disease

9.2.4. Clinical manifestations

- Joint pain, tenderness and stiffness
- Inflammation in and around the joints
- Restricted movement of the joints
- Warmth and redness of the skin over the affected joint
- Weakness and muscle wasting

9.2.5. Medical management

- Medication
 - Corticosteroids
 - Non steroidal inflammatory drugs analgesics (painkillers)
- Physiotherapy
- Lifestyle changes
- Surgery
 - Arthroplasty (joint replacement)
 - Arthodesis (joint fusion)
 - Osteotomy (where a bone is cut and re-aligned)

9.2.6. Nursing Management

- Education
- Rest / sleep
- Physical Exercise and thermotherapy
- Diet / Nutrition
- Drugs

9.2.7. Complications

- Infection
- Osteoporosis
- Amyloidosis

- Sjogren's syndrome
- Spinal cord compression

9.2.8. Recommended readings

Carpenito, L.J. (2004). Nursing Diagnosis: Application to Clinical Practice.

Philadelphia, Lippincott Williams and Wilkins

Day, A.R., Paul, P., Williams, B., Smeltzer, S.C. and Bare, B. (2007). Brunner and Suddarths's Text Book of Medical-Surgical Nursing. (Canadian Ed.), Lippincott William and Wilkins: Philadelphia

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UNIT 10: Nursing Clients with Eye Problems

10.1. Glaucoma

Learning Outcomes:

By the end of this section, the learner shall be able to:

- Define glaucoma
- Explain the etiology of glaucoma
- Describe the pathophysiology of glaucoma
- Clinical manifestations of glaucoma
- Explain the medical management of glaucoma
- Discuss the nursing management of glaucoma
- Explain the complications of glaucoma

Assessment criteria

To ensure that learners have attained the learning outcomes, learners shall be able to

- Utilize the nursing process in management of clients with glaucoma
- Demonstrate application of the etiology and pathophysiology of glaucoma in management of clients with glaucoma

10.1.1. Definition

Glaucoma refers to a group of eye conditions that lead to damage to the optic nerve. This nerve carries visual information from the eye to the brain. In most cases, damage to the optic nerve is due to increased pressure in the eye, also known as intraocular pressure (IOP)

10.1.2. Etiology

Elevated pressure in the eye is the main factor leading to glaucomatous damage to the eye (optic) nerve. Congenital glaucoma is seen in babies. It often runs in families (is inherited).

- It is present at birth.
- It is caused by abnormal eye development.

Secondary glaucoma is caused by:

- Drugs such as corticosteroids
- Eye diseases such as uveitis

- Systemic diseases
- Trauma

10.1.3. Pathophysiology

There are four major types of glaucoma:

- Open-angle (chronic) glaucoma
- Angle-closure (acute) glaucoma
- Congenital glaucoma
- Secondary glaucoma

10.1.4. Clinical manifestations

- Painless gradual loss of vision
- Pupils dilate
- High ICP
- Reduced visual fields
- Pain due to high ICP
- Headaches

10.1.5. Medical management

- Medications
- Surgery

10.1.6. Nursing Management

- Anxiety relate to loss of vision
- Sensory alteration related to disease process
- Pain related to sudden decreased vision
- Knowledge deficit related to new disease condition and treatment

10.1.7. Complications

- Blindness

10.2 Trachoma

Learning Outcomes:

By the end of this section, the learner shall be able to:

- Define trachoma
- Explain the etiology of trachoma
- Describe the pathophysiology of trachoma
- Clinical manifestations of trachoma
- Explain the medical management of trachoma
- Discuss the nursing management of trachoma
- Explain the complications of trachoma

Assessment criteria

To ensure that learners have attained the learning outcomes, learners shall be able to

- Utilize the nursing process in management of clients with trachoma
- Demonstrate application of the etiology and pathophysiology of trachoma in management of clients with trachoma

10.2.1. Definition

Trachoma is a chronic bacterial infection of the eye.

10.2.2. Etiology

Bacteria *Chlamydia trachomatis*

10.2.3. Pathophysiology

A single episode of infection with the obligate intracellular gram-negative bacterium *Chlamydia trachomatis* (serovars A, B, Ba, and C) causes a self-limiting acute conjunctivitis. Repeated infections will lead to progressive pathological scarring of the conjunctiva and alter the architecture of the eyelid, thereby pulling the eyelid margin inwards and causing lashes to rub on the globe. The constant abrasive effect of the lashes on the corneal surface, if left untreated, will rapidly induce scarring and subsequent corneal opacification, leading to irreversible vision loss.

10.2.4. Clinical manifestations

- Cloudy cornea
- Discharge from the eye
- Swelling of lymph nodes just in front of the ears
- Swollen eyelids
- Turned-in eyelashes

10.2.5. Medical management

- Antibiotics
- Surgery

10.2.6. Nursing Management

- Altered comfort pain related to infection
 - Relieve apin
- Anxiety related to poor vision
 - Psychological support
- Knowledge deficit on care
 - Patient and family education
- Risk for injury related to poor vision
 - Assist with activities of living
- Risk for cross infection
 - Isolation

10.2.7. Complications

- Eye ulcers
- Scars
- Vision loss
- Blindness.

10.3. Cataract

Learning Outcomes:

By the end of this section, the learner shall be able to:

- Define cataract
- Explain the etiology of cataract
- Describe the pathophysiology of cataract
- Clinical manifestations of cataract
- Explain the medical management of cataract
- Discuss the nursing management of cataract
- Explain the complications of cataract

Assessment criteria

To ensure that learners have attained the learning outcomes, learners shall be able to

- Utilize the nursing process in management of clients with cataract
- Demonstrate application of the etiology and pathophysiology of cataract in management of clients with cataract

10.3.1. Definition

A cataract is a clouding of the lens of the eye

10.3.2. Etiology

- Diseases such as Diabetes and hypertension
- Eye inflammation
- Eye injury
- Family history of cataracts
- Long-term use of oral corticosteroids or certain other medications
- Radiation exposure
- Smoking
- Surgery for another eye problem
- Too much exposure to ultraviolet light
- Old age
- In many cases, the cause of cataract is unknown.

10.3.3. Pathophysiology

Factors that contribute to development of cataract cause an accumulation of water and alterations in the lens fiber structure. These changes affect lens transparency causing change in vision (Lewis et al, 2011).

10.3.4. Clinical manifestations

- Being sensitive to glare
- Cloudy, fuzzy, foggy, or filmy vision
- Difficulty seeing at night or in dim light
- Double vision
- Loss of color intensity
- Problems seeing shapes against a background or the difference between shades of colors
- Seeing halos around lights

10.3.5. Medical management

- Improving sight in early stage (Better eyeglasses, Better lighting, Magnifying lenses)
- Surgery

10.3.6. Nursing Management

Preoperatively

- Knowledge deficit
- Visual impairment
- Anxiety

Post operatively

- Anxiety related to outcome of surgery
- Pain related to surgical intervention
- Risk for injury related to poor vision
- Risk for infection related to surgery
- Self-care deficit related to impaired vision

10.3.7. Complications

- Glaucoma
- Infection

- Bleeding
- Blindness
- Decrease in vision
- Retinal detachment

10.3.8. Recommended readings

Carpenito, L.J. (2004). Nursing Diagnosis: Application to Clinical Practice.

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Smeltzer, S.C., Bare, B.G., Hinkle, J.L. and Cheever K.H. (2008). Brunner and Suddarths's Text Book of Medical-Surgical Nursing. (11th Ed.), Lippincott William and Wilkins: Philadelphia

UNIT 11: Nursing Clients with Dermatological Problems

Learning Outcomes:

By the end of this unit, the learner shall be able to:

- Define dermatology
- Describe the anatomy of the skin
- Mention functions of the skin
- Describe various skin lesions
- Diagnose common skin conditions
- Discuss the management of common skin conditions
- List common complications of skin conditions

Assessment criteria

To ensure that learners have attained the learning outcomes, learners shall be able to

- Utilize the nursing process in management of clients with dermatological problems
- Demonstrate application of the etiology and pathophysiology of selected dermatological problems in management of clients

11.1. Definition

Dermatology is a branch of medicine that studies the skin and diseases that affect it.

11.2. Anatomy of the skin

Skin arises from ectoderm and mesoderm. Layers of the skin are:

- Epidermis
- Dermis

11.3. Functions of the skin

- Protection from extreme weather and microorganisms
- Beauty
- Body temperature regulation
- Cushioning of internal organs

11.4. Description of skin lesions

- Macule
- Papule

- Vesicle
- Bulla
- Pustule
- Nodule
- Plaque
- Wheal
- Crust
- Ulcer

11.5. Diagnosis of skin conditions

Diagnosis is based on:

- Careful history taking
- Thorough physical exam
- Laboratory investigations

11.6. Some common skin conditions

- Pruritis
- Eczema
- Scabies
- Skin cancers
- Impetigo
- Tania

11.7. Medical management of skin conditions

- Depends on diagnosis

11.8. Nursing management

- Altered comfort, pain
- Altered comfort, itching
- Altered skin integrity
- Risk for infection
- Body image disturbance

11.9. Complications of skin conditions

- Depends on diagnosis

11.10. Recommended readings

Carpenito, L.J. (2004). Nursing Diagnosis: Application to Clinical Practice.

Philadelphia, Lippincott Williams and Wilkins

Day, A.R., Paul, P., Williams, B., Smeltzer, S.C. and Bare, B. (2007). Brunner and Suddarths's Text Book of Medical-Surgical Nursing. (Canadian Ed.), Lippincott William and Wilkins: Philadelphia

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