Medical/Surgical Nursing Study Notes

In-depth Study Notes for Loksewa- ANM & SN

3.1 Developmental Tasks, Application of Nursing Process, and Common Diagnostic Procedures

Developmental Tasks Developmental tasks refer to specific challenges or milestones that individuals must face at various stages of life to progress toward health and maturity. Nurses must be familiar with these stages to provide effective care that aligns with the patient's developmental needs.

1. **Infancy (0-2 years)**:
    - Attachment to parents.
    - Motor skills development, such as sitting, standing, and walking.
    - Language development: Babbling, first words.
2. **Early Childhood (2-6 years)**:
    - Developing self-control and independence.
    - Language skills and socialization.
    - Learning to express emotions appropriately.
3. **Middle Childhood (6-12 years)**:
    - Developing peer relationships.
    - Academic learning and skill-building.
    - Developing self-esteem and confidence.
4. **Adolescence (12-18 years)**:
    - Establishing personal identity.
    - Independence from family.
    - Developing intimate relationships and sexual identity.
5. **Young Adulthood (18-40 years)**:
    - Establishing intimate relationships and family.
    - Pursuing career and personal goals.
    - Establishing financial independence.
6. **Middle Adulthood (40-65 years)**:
    - Reevaluation of life and career goals.
    - Coping with aging and physical changes.

- Becoming a grandparent and contributing to society.

7. **Late Adulthood (65+ years)**:
    - Reflection on life and contributions.
    - Adjusting to retirement and loss of loved ones.
    - Coping with chronic illness and physical limitations.

Application of the Nursing Process The nursing process is a systematic method for assessing, diagnosing, planning, implementing, and evaluating patient care. This process is applied in all areas of medical and surgical nursing to ensure safe and effective patient care.

1. **Assessment**: Collect comprehensive data through patient interviews, physical examinations, and laboratory tests.
    - Objective data: Vital signs, lab results, physical examination findings.
    - Subjective data: Patient's feelings, concerns, and symptoms.
2. **Diagnosis**: Analyze assessment data to identify actual or potential health problems.
    - Common nursing diagnoses may include "Ineffective breathing pattern" for asthma or "Risk for infection" post-surgery.
3. **Planning**: Set achievable goals and develop a care plan based on the nursing diagnosis.
    - Example: Goal for a patient with asthma—"Maintain clear airway throughout hospitalization."
4. **Implementation**: Carry out the planned interventions.
    - Administering medications, providing education, and ensuring patient comfort.
5. **Evaluation**: Assess the effectiveness of interventions and adjust the care plan accordingly.
    - Example: Did the patient's breathing improve with the prescribed interventions? If not, the care plan should be modified.

Common Diagnostic Procedures In medical and surgical nursing, diagnostic procedures help identify the cause of symptoms and guide treatment decisions. Nurses must prepare patients for these procedures, provide support, and monitor for complications.

- **Blood Tests**: Complete blood count (CBC), liver function tests, kidney function tests.
- **Imaging**: X-rays, CT scans, MRI, ultrasound.
- **Endoscopy**: Colonoscopy, gastroscopy for assessing the gastrointestinal system.
- **Electrocardiogram (ECG)**: Measures electrical activity of the heart.
- **Biopsy**: Removing tissue for examination to diagnose cancer or other diseases.

3.2 Nursing Management of Common Disease Conditions

Pre and Postoperative Care

- **Preoperative Care**: Focus on assessment, preparing the patient psychologically and physically for surgery, obtaining consent, educating the patient about the procedure, and ensuring proper fasting and hygiene.
- **Postoperative Care**: Monitor vital signs, pain management, preventing complications like infection or thrombosis, promoting mobility, and educating the patient about self-care.

Common Disease Conditions and Nursing Management

1. **Accidents and Injuries**
    - Initial care involves assessing airway, breathing, and circulation (ABCs), stopping bleeding, stabilizing fractures, and preventing shock.
    - Provide emotional support and prepare for possible transportation to emergency care.
2. **Head Injuries**
    - Monitor for signs of increased intracranial pressure (ICP) such as altered mental status, vomiting, or pupil changes.
    - Provide a quiet, dark environment and administer pain relief.
3. **Spinal Cord Injury**
    - Stabilize the spine using a cervical collar and backboard.
    - Monitor for breathing difficulties, and potential paralysis, and provide emotional support.
4. **Meningitis**
    - Inflammation of the meninges, often caused by infection.
    - Symptoms: Headache, fever, stiff neck.
    - Nursing care: Administer antibiotics, monitor for complications, and manage pain.
5. **Encephalitis**
    - Inflammation of the brain caused by viruses.
    - Symptoms: Fever, confusion, seizures.
    - Nursing care: Supportive care, seizure management, and monitoring vital signs.
6. **Tetanus**
    - Caused by bacterial infection from wounds.
    - Symptoms: Muscle rigidity, lockjaw.

- Nursing care: Administer tetanus toxoid, antibiotics, pain management, and wound care.

7. **Epilepsy**
   - Neurological disorder characterized by seizures.
   - Nursing care: Ensuring safety during seizures, administering anticonvulsants, and educating patients on seizure triggers.
8. **Bronchitis**
   - Inflammation of the bronchial tubes.
   - Symptoms: Cough, shortness of breath.
   - Nursing care: Administer bronchodilators, oxygen therapy, and provide postural drainage.
9. **Asthma**
   - Chronic respiratory disease with wheezing and difficulty breathing.
   - Nursing care: Administer bronchodilators and corticosteroids, educate on trigger management, and promote inhaler use.
10. **Pulmonary TB**
    - A bacterial infection of the lungs.
    - Symptoms: Chronic cough, weight loss, night sweats.
    - Nursing care: Provide medication adherence education, respiratory isolation, and support.
11. **Pleurisy**
    - Inflammation of the pleura (lung lining).
    - Symptoms: Sharp chest pain that worsens with breathing.
    - Nursing care: Pain management, promote deep breathing exercises.
12. **Common Cold**
    - Viral infection of the upper respiratory tract.
    - Symptoms: Runny nose, sore throat, cough.
    - Nursing care: Provide supportive care, hydration, and rest.
13. **Rhinitis**
    - Inflammation of the nasal mucous membranes.
    - Symptoms: Sneezing, nasal congestion.
    - Nursing care: Administer antihistamines, saline nasal sprays, and encourage fluid intake.
14. **Atelectasis**
    - Collapse of part of the lung.

- Symptoms: Difficulty breathing, cyanosis.
- Nursing care: Encourage deep breathing exercises and administer oxygen therapy.

15. **Peptic Ulcer**
    - Erosion of the stomach or duodenal lining.
    - Symptoms: Epigastric pain, nausea.
    - Nursing care: Administer antacids, proton pump inhibitors, and educate on dietary modifications.
16. **Intestinal Obstruction**
    - Blockage of the intestines.
    - Symptoms: Abdominal pain, vomiting.
    - Nursing care: Monitor fluid and electrolyte balance, provide comfort measures, and prepare for surgery if required.
17. **Appendicitis**
    - Inflammation of the appendix.
    - Symptoms: Right lower quadrant abdominal pain, fever.
    - Nursing care: Preoperative care, pain management, and postoperative monitoring.
18. **Peritonitis**
    - Inflammation of the peritoneum.
    - Symptoms: Severe abdominal pain, fever.
    - Nursing care: Administer antibiotics, monitor for shock, and provide fluid replacement.
19. **Cirrhosis of Liver**
    - Chronic liver disease with scarring.
    - Symptoms: Jaundice, ascites, fatigue.
    - Nursing care: Monitor liver function, administer medications, and educate on alcohol cessation.
20. **Haemorrhoids**
    - Swollen blood vessels in the rectum.
    - Symptoms: Pain, itching, rectal bleeding.
    - Nursing care: Provide topical treatments, encourage fiber-rich diet, and educate on proper bowel habits.
21. **Cholecystitis**
    - Inflammation of the gallbladder.

- Symptoms: Right upper quadrant pain, fever.
- Nursing care: Administer pain relief, educate on dietary changes, and prepare for possible surgery.

22. **Hepatitis**
    - Inflammation of the liver due to infection.
    - Symptoms: Jaundice, fatigue, nausea.
    - Nursing care: Administer antivirals, ensure hydration, and educate on vaccination and safe practices.
23. **Hernias**
    - Protrusion of an organ through the abdominal wall.
    - Symptoms: Lump, pain.
    - Nursing care: Preoperative education, postoperative monitoring, and support.
24. **Hydrocele**
    - Fluid-filled sac around the testes.
    - Symptoms: Swelling in the scrotum.
    - Nursing care: Monitor for complications, educate on surgical interventions.
25. **Bladder Stones**
    - Hard deposits in the bladder.
    - Symptoms: Painful urination, blood in urine.
    - Nursing care: Encourage fluid intake, provide pain relief, and prepare for surgical interventions.
26. **Pyelonephritis**
    - Kidney infection.
    - Symptoms: Fever, back pain, painful urination.
    - Nursing care: Administer antibiotics, promote fluid intake, and monitor kidney function.
27. **Urinary Tract Infection (UTI)**
    - Infection of the urinary tract.
    - Symptoms: Burning sensation during urination, frequency.
    - Nursing care: Administer antibiotics, promote hydration, and educate on preventive measures.
28. **Renal Stone**
    - Solid mass in the kidneys.

- Symptoms: Flank pain, hematuria.
- Nursing care: Manage pain, increase fluid intake, and prepare for possible surgical intervention.

29. **Acute and Chronic Renal Failure**
    - Failure of the kidneys to filter waste.
    - Symptoms: Oliguria, fatigue, swelling.
    - Nursing care: Monitor renal function, administer diuretics, and educate on dialysis options.
30. **Uremia**
    - Toxic condition due to kidney failure.
    - Symptoms: Nausea, confusion, lethargy.
    - Nursing care: Provide dialysis, manage fluid and electrolyte balance.
31. **Congestive Heart Failure (CHF)**
    - Heart's inability to pump blood effectively.
    - Symptoms: Dyspnea, fatigue, edema.
    - Nursing care: Administer diuretics, monitor fluid balance, and provide oxygen therapy.
32. **Angina**
    - Chest pain due to inadequate blood supply to the heart.
    - Symptoms: Chest tightness, shortness of breath.
    - Nursing care: Administer nitroglycerin, manage pain, and educate on lifestyle changes.
33. **Cardiac Arrest**
    - Sudden cessation of heart function.
    - Nursing care: Immediate CPR, defibrillation, and resuscitation.
34. **Anaemia**
    - Decreased red blood cells.
    - Symptoms: Fatigue, pallor, weakness.
    - Nursing care: Administer iron supplements, encourage dietary changes.
35. **Leukaemia**
    - Cancer of blood-forming tissues.
    - Symptoms: Frequent infections, fatigue, bruising.
    - Nursing care: Administer chemotherapy, monitor for bleeding, and provide emotional support.

36. **Myocardial Infarction (MI)**
    - Heart attack due to blocked blood flow to the heart.
    - Symptoms: Chest pain, sweating, nausea.
    - Nursing care: Administer pain relief, anticoagulants, and oxygen.
37. **Gangrene**
    - Tissue death due to infection or lack of blood supply.
    - Symptoms: Dark, cold skin, foul-smelling discharge.
    - Nursing care: Monitor for infection, assist in wound care, and prepare for possible amputation.
38. **Diabetes Mellitus**
    - Chronic condition characterized by high blood glucose levels.
    - Nursing care: Monitor blood glucose, administer insulin, and educate on diet and exercise.
39. **Diabetes Insipidus**
    - Disorder causing excessive urination and thirst.
    - Nursing care: Monitor fluid balance, administer vasopressin.
40. **Hypertension**
    - High blood pressure.
    - Nursing care: Encourage lifestyle changes, administer antihypertensives, and monitor for complications.
41. **Fracture**
    - Break in the bone.
    - Nursing care: Stabilize the bone, manage pain, and monitor for complications.
42. **Dislocation**
    - Displacement of a bone from its joint.
    - Nursing care: Provide joint stabilization, manage pain, and educate on rehabilitation.
43. **Osteomyelitis**
    - Infection of the bone.
    - Symptoms: Bone pain, fever.
    - Nursing care: Administer antibiotics, manage pain, and encourage mobility after healing.

Epidemiology of Common Diseases

Epidemiology involves the study of how diseases spread, their causes, and how they impact populations. Understanding the epidemiology of common diseases is crucial for effective prevention, control, and treatment strategies. Below is an overview of the epidemiology of common medical and surgical diseases.

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1. Accidents and Injuries

- **Epidemiology**:
  - **Global burden**: Accidents and injuries are a leading cause of death and disability worldwide. They contribute significantly to morbidity and mortality, particularly in low- and middle-income countries.
  - **Risk factors**: Factors like age (children and elderly), environmental hazards (traffic accidents, workplace injuries), and behavioral factors (substance abuse, unsafe driving).
  - **Prevention**: Safety regulations, traffic laws, workplace safety measures, and public health campaigns.
  - **Statistics**: The World Health Organization (WHO) reports that approximately 5.8 million people die annually from injuries.

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2. Head Injuries

- **Epidemiology**:
  - **Global burden**: Head injuries, particularly traumatic brain injuries (TBI), are common causes of morbidity, mortality, and long-term disability.
  - **Risk factors**: Vehicular accidents, falls, sports injuries, violence, and workplace accidents.
  - **Incidence**: The WHO estimates 69 million cases of TBI occur worldwide every year, with varying severity.
  - **Prevention**: Use of helmets, seat belts, workplace safety measures, and reducing violence.
  - **Statistics**: TBI is one of the leading causes of death in young adults.

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3. Spinal Cord Injury

- **Epidemiology**:
  - **Global burden**: Spinal cord injury (SCI) can lead to permanent disability and is associated with a high cost of care.
  - **Risk factors**: Vehicular accidents, falls, violence, and sports injuries (particularly in contact sports).
  - **Incidence**: Approximately 250,000–500,000 people worldwide suffer a spinal cord injury each year.
  - **Prevention**: Road safety measures, fall prevention strategies, sports safety gear.

- **Statistics**: The incidence of SCI is higher in young males, typically aged 15–35 years.

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4. Meningitis

- **Epidemiology**:
  - **Global burden**: Meningitis is a serious infection of the protective membranes surrounding the brain and spinal cord. Bacterial meningitis is the most severe form.
  - **Risk factors**: Infants, young children, and immunocompromised individuals are at higher risk. Crowded living conditions (e.g., dormitories) also increase the risk of outbreaks.
  - **Incidence**: Around 1 million people are affected by meningitis annually worldwide, with over 100,000 deaths each year.
  - **Prevention**: Vaccination, antibiotics, and early diagnosis.
  - **Statistics**: The World Health Organization (WHO) reports that sub-Saharan Africa is particularly affected, with meningitis outbreaks occurring every 8–12 years.

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5. Encephalitis

- **Epidemiology**:
  - **Global burden**: Encephalitis, inflammation of the brain, is usually caused by viral infections. It can lead to severe neurological sequelae or death.
  - **Risk factors**: Infection with viruses such as herpes simplex, arboviruses (e.g., Japanese encephalitis), and enteroviruses. Children and the elderly are particularly vulnerable.
  - **Incidence**: Estimated that 1–2 cases of viral encephalitis occur per 100,000 people annually.
  - **Prevention**: Vaccination (e.g., for Japanese encephalitis) and mosquito control measures.
  - **Statistics**: Affects both developed and developing countries, but outbreaks are more common in tropical and subtropical areas.

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6. Tetanus

- **Epidemiology**:
  - **Global burden**: Tetanus is a preventable disease caused by a toxin produced by the *Clostridium tetani* bacteria.
  - **Risk factors**: Unvaccinated individuals, particularly those with poor wound care and those in rural or underdeveloped areas.
  - **Incidence**: The global incidence of tetanus has dramatically decreased due to vaccination, but it still occurs in some low-income regions.

- **Prevention**: Vaccination, proper wound care, and clean delivery practices.
- **Statistics**: The global burden of tetanus remains higher in developing countries, with approximately 30,000–40,000 cases annually.

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7. Epilepsy

- **Epidemiology**:
  - **Global burden**: Epilepsy is one of the most common neurological disorders worldwide.
  - **Risk factors**: Genetic predisposition, brain injuries, infections, and stroke.
  - **Incidence**: About 50 million people globally have epilepsy, with an incidence of 1 in 1,000 per year.
  - **Prevention**: Prevention of head injuries, infections, and proper prenatal care.
  - **Statistics**: It affects both children and adults, with a peak incidence in childhood and older age.

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8. Bronchitis

- **Epidemiology**:
  - **Global burden**: Chronic bronchitis is part of chronic obstructive pulmonary disease (COPD), a major cause of morbidity and mortality worldwide.
  - **Risk factors**: Smoking, air pollution, respiratory infections.
  - **Incidence**: More than 250 million people globally are affected by COPD.
  - **Prevention**: Smoking cessation, reducing exposure to air pollution.
  - **Statistics**: COPD, including bronchitis, is the third leading cause of death worldwide.

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9. Asthma

- **Epidemiology**:
  - **Global burden**: Asthma is a chronic respiratory disease characterized by airway inflammation and constriction.
  - **Risk factors**: Allergens, air pollution, respiratory infections, family history.
  - **Incidence**: Approximately 235 million people worldwide have asthma, and its prevalence has been rising, particularly in urban areas.
  - **Prevention**: Allergen and irritant avoidance, medication adherence.
  - **Statistics**: Asthma accounts for over 250,000 deaths annually worldwide, with a higher prevalence in children.

10. Pulmonary Tuberculosis (TB)

- **Epidemiology**:
  - **Global burden**: Pulmonary TB remains one of the leading causes of death from infectious diseases globally.
  - **Risk factors**: Close contact with infected individuals, immunocompromised individuals (e.g., those with HIV/AIDS), poor nutrition, overcrowded living conditions.
  - **Incidence**: The WHO estimates 10 million new TB cases globally each year, with 1.4 million deaths.
  - **Prevention**: Vaccination (BCG), early diagnosis, and treatment adherence.
  - **Statistics**: Sub-Saharan Africa and South Asia are the most affected regions.

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11. Pleurisy

- **Epidemiology**:
  - **Global burden**: Pleurisy is inflammation of the pleura, often caused by infections or other diseases like pneumonia.
  - **Risk factors**: Respiratory infections, autoimmune diseases, lung cancer.
  - **Incidence**: Pleurisy is relatively rare, but its occurrence increases in patients with pneumonia or other respiratory conditions.
  - **Prevention**: Early treatment of respiratory infections and proper hygiene.
  - **Statistics**: Common in individuals with underlying respiratory diseases like tuberculosis or pneumonia.

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12. Common Cold

- **Epidemiology**:
  - **Global burden**: The common cold is one of the most frequent infectious diseases, affecting people worldwide, especially in winter months.
  - **Risk factors**: Close contact with infected individuals, poor hygiene, weakened immune system.
  - **Incidence**: Adults experience 2–3 colds per year on average, while children may experience more.
  - **Prevention**: Hand hygiene, avoiding close contact with infected individuals.
  - **Statistics**: The common cold is responsible for millions of lost workdays and school days annually.

13. Rhinitis

- **Epidemiology**:
  - **Global burden**: Allergic rhinitis, commonly referred to as hay fever, is prevalent globally.
  - **Risk factors**: Allergens like pollen, dust mites, pet dander, and genetic predisposition.
  - **Incidence**: Affects about 10–30% of the global population.
  - **Prevention**: Allergen avoidance, antihistamines, and nasal corticosteroids.
  - **Statistics**: The prevalence is rising, particularly in urban areas.

14. Atelectasis

- **Epidemiology**:
  - **Global burden**: Atelectasis refers to the collapse of part of the lung and can result from various causes, including airway obstruction, surfactant deficiency, or compression.
  - **Risk factors**: Post-surgical patients, prolonged bed rest, and individuals with lung diseases.
  - **Incidence**: Atelectasis occurs in about 10–20% of patients following major surgeries.
  - **Prevention**: Incentive spirometry, early mobilization post-surgery.
  - **Statistics**: Most common in hospitalized or post-operative patients.