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Nursing Management of Patients with Communicable Diseases

Medical Surgical Nursing

Modes of transmission, prevention and control of infections, dengue, malaria, typhoid, tuberculosis, hepatitis, HIV/AIDS, COVID-19 and other important communicable diseases.

For educational purposes only.

CHAPTER 16 / MEDICAL-SURGICAL NURSING 16. Nursing Management of Patients with Communicable Diseases

1. Transmission and infection control

Infection may spread by direct/indirect contact, droplets, airborne particles, blood, faeco-oral routes or vectors. Standard precautions apply to all: hand hygiene, risk-based PPE, safe injections, respiratory hygiene and waste segregation. Additional contact, droplet or airborne precautions depend on organism and procedure. Isolation separates infected persons; quarantine restricts exposed persons when public-health guidance indicates.

HIV/AIDS

Definition and pathophysiology: HIV infects CD4 cells; advanced disease predisposes to opportunistic infections.

Clinical features and investigations: Early febrile illness or asymptomatic, then weight loss/recurrent infections; approved testing algorithm, viral load and CD4 monitoring.

Management and nursing care: Combination ART and adherence support; monitor interactions, opportunistic infection prophylaxis/treatment as indicated. Universal precautions, confidentiality, PEP assessment after exposure, prevent stigma. Sustained undetectable viral load prevents sexual transmission.

Malaria

Definition and pathophysiology: Plasmodium parasites transmitted by infected Anopheles mosquitoes.

Clinical features and investigations: Fever, chills, headache, anaemia; microscopy/rapid test. Severe disease may cause coma, anaemia, renal injury or shock.

Management and nursing care: Urgent treatment by species, severity and local resistance guidance; monitor glucose, neurological status and fluid balance. Insecticide-treated nets and vector control.

Dengue

Definition and pathophysiology: Aedes-borne viral infection; vascular leakage in severe disease.

Clinical features and investigations: Fever, myalgia, headache; warning signs around defervescence include abdominal pain, persistent vomiting, bleeding, lethargy. NS1/PCR or serology depending illness phase; serial haematocrit/platelets.

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B.SC. NURSING / CHAPTER-WISE STUDY NOTES

Management and nursing care: Careful fluid management and monitoring; avoid aspirin/NSAIDs due to bleeding. Escalate shock or organ involvement; platelet count alone does not determine transfusion.

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Typhoid

Definition and pathophysiology: Salmonella Typhi/Paratyphi infection via contaminated food/water.

Clinical features and investigations: Persistent fever, abdominal symptoms, headache, possible perforation/bleeding; blood culture preferred early.

Management and nursing care: Prescribed antibiotics based on resistance, hydration, nutrition, hygiene and surveillance; urgent review for severe abdominal pain or shock.

Viral hepatitis

Definition and pathophysiology: A/E predominantly faeco-oral; B/C mainly blood/body fluids.

Clinical features and investigations: Jaundice, nausea, fatigue or asymptomatic; serology and liver tests.

Management and nursing care: Support hydration/nutrition, antivirals for selected B/C, vaccination A/B where appropriate, harm reduction and safe injections. Acute liver failure signs need escalation.

Tuberculosis

Definition and pathophysiology: Airborne bacterial disease, pulmonary or extrapulmonary.

Clinical features and investigations: Cough, fever, weight loss; rapid molecular testing and susceptibility, imaging.

Management and nursing care: Airborne isolation in infectious pulmonary disease, NTEP-directed treatment, adherence and contact management, adverse drug monitoring.

COVID-19

Definition and pathophysiology: SARS-CoV-2 respiratory infection with variable severity.

Clinical features and investigations: Fever, cough, dyspnoea or other symptoms; testing according to clinical context.

Management and nursing care: Assess oxygenation/risk, prescribed antivirals or other treatment for eligible patients, oxygen/support when needed, follow current precautions and vaccination recommendations.

Other important infections

Definition and pathophysiology: Leprosy affects skin/peripheral nerves; leptospirosis may follow contaminated water; rabies is a fatal encephalitis after symptoms start.

Clinical features and investigations: Leprosy: sensory skin patches/nerve impairment; leptospirosis: fever, myalgia, jaundice; animal bite exposure requires risk assessment before symptoms.

Management and nursing care: Refer for leprosy multidrug therapy, treat leptospirosis as indicated; immediately wash suspected rabies exposure thoroughly with soap/water and seek prompt vaccine/immunoglobulin assessment according to category. Do not wait for symptoms.

2. Nursing responsibilities and public health

Maintain surveillance and reporting according to requirements, specimen collection safety and patient education. Assess fever with travel/exposure, vulnerable contacts, dehydration and sepsis. Use appropriate isolation without compromising dignity. Promote vaccination, sanitation, vector control and adherence to complete indicated treatment.

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3. Important Examination Questions

Long Answer Questions

1. 1. Explain modes of disease transmission and nursing management of dengue, malaria and TB.

Short Answer Questions

1. 1. Differentiate isolation and quarantine
2. 2. explain HIV prevention
3. 3. describe typhoid complications.

Very Short Answer Questions (with answers)

1. 1. Which mosquito transmits malaria? - Anopheles.
2. 2. Which vector transmits dengue? - Aedes.

4. Quick Revision

- Dengue can worsen as fever settles.
- TB is airborne.
- ART adherence improves HIV outcomes.

5. Conclusion

Dengue can worsen as fever settles. TB is airborne. ART adherence improves HIV outcomes.

Practice questions

Choose one best answer. The answer key and explanations follow the questions.

1. To which patients do standard precautions apply?

A. Only patients with a confirmed blood-borne infection
B. Only patients with fever
C. Only patients in airborne isolation
D. All patients

2. Which investigation is preferred early in suspected typhoid?

A. Blood culture
B. A routine urine dipstick
C. A single nonspecific antibody test alone
D. Stool culture only after recovery

3. Which medication group should be avoided in dengue because of bleeding risk?

A. Paracetamol used within prescribed limits
B. Aspirin and NSAIDs
C. Prescribed antiemetic treatment

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D. Prescribed crystalloid fluid therapy

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Answer key and explanations

1. D - All patients

Standard precautions apply to all patients and include hand hygiene and risk-based PPE.

2. A - Blood culture

The chapter identifies blood culture as preferred early in typhoid investigation.

3. B - Aspirin and NSAIDs

Aspirin and NSAIDs increase bleeding concern and should be avoided in dengue.

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