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Communicable Diseases

Community Health Nursing

Causes, modes of transmission, signs and symptoms, prevention and control of communicable diseases, isolation, quarantine, immunisation and surveillance.

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CHAPTER 12 / COMMUNITY HEALTH NURSING 12. Communicable Diseases

1. Definition and classification

Communicable diseases are illnesses caused by infectious agents that can be transmitted directly or indirectly. Infection does not always cause symptoms. Carriers may transmit certain agents while asymptomatic. An emerging infection is newly recognized or increasing; a re-emerging infection returns or increases after decline.

2. Modes of transmission and prevention

Mode	Examples	Control
Airborne	Pulmonary TB, measles	Ventilation, suitable respiratory protection, isolation
Droplet/respiratory	Influenza, pertussis	Respiratory hygiene, appropriate masks and vaccination
Faecal-oral	Cholera, hepatitis A	Safe water, sanitation, hygiene
Vector-borne	Malaria, dengue	Vector control and personal protection
Blood/sexual	HIV, hepatitis B	Safe injection, condoms, screening, vaccination for HBV
Direct contact	Scabies, some skin infections	Treatment, contact precautions as indicated

3. Common communicable diseases

Disease and agent	Common findings	Prevention and nursing action
TB - Mycobacterium tuberculosis	Persistent cough, fever, weight loss, night sweats	Refer for testing, respiratory precautions, support prescribed treatment
Malaria - Plasmodium	Fever, chills, headache; severe illness may cause confusion	Prompt diagnostic testing, nets, treatment and referral
Dengue - dengue virus	Fever, pain, headache; warning signs may occur as fever falls	Remove breeding sites, assess warning signs, avoid NSAIDs if suspected
Cholera - Vibrio cholerae	Acute watery diarrhoea, dehydration	ORS promptly if able to drink; urgent referral if severe, safe water
Typhoid - Salmonella Typhi	Persistent fever, abdominal symptoms	Safe water/food, appropriate diagnostic evaluation
Measles - measles virus	Fever, cough, coryza, conjunctivitis, rash	Airborne precautions, notification, vaccination

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Leprosy - M. leprae	Skin patches with sensory loss, nerve involvement	Early referral, prescribed MDT and disability prevention
HIV - human immunodeficiency virus	May be asymptomatic for years	Testing with consent, ART linkage, prevention and stigma reduction
Rabies virus	Usually transmitted via infected mammal bite/saliva	Immediate wound washing and urgent post-exposure assessment

4. Additional clinical priorities

Rabies exposure: wash the wound thoroughly with soap and running water for about 15 minutes; seek urgent assessment for vaccine and immunoglobulin/approved antibodies when indicated. Do not wait for symptoms. Acute watery diarrhoea: assess dehydration, give appropriate ORS, continue feeding when tolerated; severe dehydration requires urgent care. Dengue warning signs include severe abdominal pain, persistent vomiting, bleeding, lethargy and fluid accumulation. Avoid aspirin and ibuprofen in suspected dengue. Severe febrile illness, seizures, altered consciousness, shock or difficulty breathing requires urgent referral.

5. Isolation and quarantine

Isolation separates people with infectious illness where appropriate; quarantine restricts or monitors exposed people who may become infectious when indicated. Both depend on the disease, duration of infectiousness, public health guidance and lawful authority. Standard precautions apply to everyone; transmission-based precautions are added as required. Avoid unnecessary isolation or discrimination.

6. Immunisation and surveillance

Vaccination reduces susceptibility, while surveillance detects cases, clusters and changes in disease patterns. Identify contacts, collect samples safely, notify as required, support appropriate prophylaxis and track follow-up. Do not share identifiable case lists publicly.

7. Nursing responsibilities

- Assess illness and danger signs, take relevant history, support timely diagnostic testing.
- Provide infection prevention education and appropriate protective measures.
- Encourage completion of prescribed treatment; monitor side effects and refer.
- Maintain line lists, notify public health staff and support outbreak control.
- Address stigma, confidentiality and household barriers to care.

8. Disease transmission and control strategy

Control measures target the source, transmission pathway and susceptible host. Source measures include prompt diagnosis, appropriate treatment and isolation when indicated. Pathway measures include safe water, sanitation, ventilation, vector control and infection precautions. Host measures include vaccination, appropriate prophylaxis and nutrition support.

Disease group	Main preventive strategy

Airborne infections (e.g., TB)	Ventilation, early case detection, appropriate respiratory protection and treatment.
Faecal-oral infections	Safe water, sanitation, handwashing, food hygiene and vaccination where indicated.
Vector-borne infections	Source reduction, personal protection and targeted surveillance.
Blood-borne and sexually transmitted infections	Safe injections, blood safety, condom access, testing and treatment.
Zoonotic infections (e.g., rabies)	Animal vaccination, avoidance of exposure and urgent post-exposure evaluation.

9. Case detection and safe follow-up

A patient reports prolonged cough, weight loss and fever. Assess respiratory symptoms, provide appropriate infection precautions and arrange TB testing through the programme. Explain that symptoms do not alone confirm TB. Follow results, support prescribed therapy and coordinate contact assessment with the responsible team. Maintain confidentiality and avoid stigmatizing the household.

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B.SC. NURSING / STUDY NOTES

Isolation, quarantine and notification

Isolation separates infectious people when transmission precautions are indicated. Quarantine restricts exposure-related activities of some contacts when justified by public health guidance. Notification communicates specified cases or events to authorized authorities. These are distinct measures and should be applied proportionately under applicable guidelines.

10. Important Examination Questions

Long Answer Questions

1. 1. Explain transmission, prevention and control of communicable diseases.
2. 2. Describe community management of TB, malaria and dengue.
3. 3. Describe prevention and control at each link of the chain of infection.
4. 4. Develop a community response plan for suspected pulmonary tuberculosis.

Short Answer Questions

1. 1. Isolation vs quarantine
2. 2. ORS
3. 3. vector control
4. 4. surveillance
5. 5. rabies prevention
6. 6. Reservoir and source.
7. 7. Notification and surveillance.

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8. 8. Respiratory hygiene.
9. 9. Zoonotic disease prevention.

Very Short Answer Questions (with answers)

1. 1. Malaria agent? Plasmodium.
2. 2. Dengue vector? Aedes.
3. 3. TB transmission? Mainly airborne.
4. 4. Which mosquito transmits human malaria? - Female Anopheles.
5. 5. What is quarantine? - A public health measure applied to exposed people when indicated.

11. Quick Revision

- Communicable diseases spread through specific pathways.
- Treatment and infection prevention work together.
- Use appropriate testing rather than symptom-only diagnosis.
- Report unusual clusters promptly.

Conclusion

Early detection, infection control, vaccination and effective treatment interrupt disease transmission.

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Practice questions

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

1. Which prevention measures specifically address faecal-oral transmission?

A. Blood screening and safe injections alone
B. Safe water, sanitation and hygiene
C. Respiratory protection and ventilation alone
D. Mosquito nets and larval control alone

2. Which skin finding should prompt referral for possible leprosy?

A. A transient itchy wheal after contact
B. A painful blister after friction
C. A skin patch with sensory loss
D. A bruise with intact sensation

3. After a possible rabies exposure, which immediate local measure is appropriate?

A. Covering the unwashed wound until symptoms develop
B. Applying a tight bandage without cleaning
C. Delaying wound care until the next routine visit
D. Thorough washing with soap and running water for about 15 minutes

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Answer key and explanations

1. B - Safe water, sanitation and hygiene

Safe water and sanitation interrupt faecal-oral spread.

2. C - A skin patch with sensory loss

Leprosy can involve skin patches with sensory loss and nerve involvement.

3. D - Thorough washing with soap and running water for about 15 minutes

Immediate wound washing should be followed by urgent post-exposure assessment.

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