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Health and Disease

Community Health Nursing

Concepts of health, illness and disease, dimensions of health, determinants of health, natural history of disease, epidemiological triad, levels of prevention and health-illness continuum.

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CHAPTER 02 / COMMUNITY HEALTH NURSING 02. Health and Disease

1. Concepts and definitions

Health encompasses physical, mental and social well-being, not simply freedom from disease. Wellness is the active pursuit of well-being. Disease refers to pathological disturbance; illness is the person's experience of being unwell; sickness includes its social meaning. A patient may have a disease without symptoms or experience illness without an immediately identified disease.

2. Dimensions and determinants of health

Dimension	Examples
Physical	Nutrition, mobility, organ function
Mental and emotional	Cognition, coping and emotional regulation
Social	Relationships, belonging and support
Spiritual	Personal values, meaning and beliefs
Occupational/environmental	Safe work, housing and surroundings

Determinants include age and genetics, lifestyle, education, income, gender-related barriers, working conditions, food security, sanitation, housing, social support and accessible healthcare. Health inequalities are often rooted in unequal resources rather than individual choices alone.

3. Models of health

Biomedical model focuses on pathological causes; ecological model emphasizes interaction with the environment; psychosocial model includes stress and social circumstances; holistic/biopsychosocial model combines biological, psychological and social influences. Example: diabetes requires metabolic treatment plus attention to diet affordability, stress and access to follow-up.

4. Natural history of disease

Natural history describes the course of disease without intervention. Prepathogenesis occurs before disease begins, when host and environmental factors create susceptibility. Pathogenesis begins with biological changes, passes through a subclinical phase and may progress to symptoms, complications, disability, recovery or death.

Sequence: Susceptibility -> exposure -> subclinical disease -> clinical disease -> outcome. The incubation period is the interval between infection and symptoms; a latent period has different definitions depending on context (e.g., infection to infectiousness).

5. Epidemiological triad

Component	Meaning and examples
Agent	Biological organism, chemical or physical exposure
Host	Susceptibility, immunity, age, nutrition, genetics
Environment	Climate, water, sanitation, crowding, vectors

In malaria, Plasmodium is the agent, humans are hosts and Anopheles mosquitoes transmit infection in a suitable environment. Chronic diseases often require a multifactorial web of causation rather than one agent.

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6. Levels of prevention

Level	Aim	Example
Primordial	Prevent emergence of risk factors	Tobacco-free environments
Primary	Prevent disease onset	Vaccination, mosquito protection
Secondary	Early detection and treatment	BP screening with confirmation
Tertiary	Reduce impairment and complications	Stroke rehabilitation
Quaternary	Prevent unnecessary healthcare harm	Avoid unindicated antibiotics/tests

Health promotion and specific protection are primary prevention; screening is secondary only when linked to confirmation and effective care.

7. Health-illness continuum

Well-being changes with time, resources and disease control. A person with a chronic illness can have good functioning and quality of life. The continuum is not a rigid linear score: assess the patient's physical function, symptoms, psychosocial needs and goals.

8. Clinical and community significance

Acute illness develops over a relatively short time; chronic illness persists. Communicable disease spreads through infectious agents; non-communicable disease is not transmitted between people in the usual infectious sense. Endemic describes expected ongoing occurrence, epidemic an excess above expectation, pandemic extensive international spread. Prevention must target both exposures and structural barriers.

9. Nursing importance

Assess risk, promote preventive behaviour, recognize warning signs, provide screening and treatment support, coordinate rehabilitation and monitor continuity. Evaluate whether care reaches people with the highest need rather than relying only on total service numbers.

10. Host resistance and disease causation

Susceptibility is influenced by prior immunity, nutrition, age, underlying disease and exposure. Risk factors increase the probability of disease but are not necessarily sufficient causes. A causal pathway may involve several interacting social and biological factors. The iceberg phenomenon describes how identified clinical cases can represent only a portion of all cases, because asymptomatic, undiagnosed or unreported disease may remain hidden.

Concept	Example
Reservoir	Human or animal source in which an infectious agent normally lives.
Source of infection	Person, object or material from which a particular infection is acquired.
Carrier	Infected person who can transmit an agent, sometimes without symptoms.
Risk factor	Tobacco exposure increasing the likelihood of several chronic diseases.

11. Application of prevention to one condition

For hypertension, primordial prevention includes creating supportive environments for active living and healthy foods. Primary prevention includes reducing excess salt intake and promoting physical activity. Secondary prevention includes measuring BP and confirming persistent abnormal readings. Tertiary prevention includes treatment adherence, complication prevention and rehabilitation after stroke. Quaternary prevention avoids unnecessary investigations or harmful overtreatment.

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Nursing assessment

Do not classify a patient as healthy merely because no disease has been diagnosed. Assess function, symptoms, living conditions, access to care and the individual's priorities. Distinguish a screening finding from a confirmed diagnosis, and arrange appropriate follow-up.

12. Important Examination Questions

Long Answer Questions

1. 1. Describe natural history of disease with levels of prevention.
2. 2. Explain the epidemiological triad and determinants of health.
3. 3. Explain the iceberg phenomenon and its significance in disease surveillance.
4. 4. Apply levels of prevention to hypertension or diabetes mellitus.

Short Answer Questions

1. 1. Dimensions of health
2. 2. health-illness continuum

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3. 3. primordial prevention
4. 4. disease versus illness
5. 5. Agent, reservoir and source of infection.
6. 6. Risk factor versus cause.
7. 7. Subclinical disease.

Very Short Answer Questions (with answers)

1. 1. Early detection? Secondary prevention.
2. 2. Immunisation? Primary prevention.
3. 3. Rehabilitation? Tertiary prevention.
4. 4. What is a carrier? - A person harbouring an infectious agent who may transmit it.
5. 5. Which prevention level prevents risk factors from emerging? - Primordial.

13. Quick Revision

- Disease and illness are related but not identical.
- Natural history describes disease progression without intervention.
- The epidemiological triad consists of agent, host and environment.
- Health promotion must address social and environmental determinants.

Conclusion

Health is multidimensional and dynamic; prevention can interrupt disease progression at multiple stages.

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Practice questions

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

1. Blood pressure screening followed by confirmation and effective care represents which level of prevention?

A. Primordial
B. Primary
C. Tertiary
D. Secondary

2. In the epidemiological triad for malaria, which factor is the agent?

A. Plasmodium
B. Human immunity
C. Crowded housing
D. The susceptible human

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3. What does the iceberg phenomenon imply when a nurse reviews reported disease cases?

A. Reported cases always exceed the true burden

B. Reported clinical cases may represent only part of the total burden

C. All infections have already been diagnosed

D. Every asymptomatic person is free of disease

4. A community team measures blood pressure in adults without a prior diagnosis and arranges confirmation of abnormal results. Which prevention level is this?

A. Secondary prevention

B. Primordial prevention because treatment has not started

C. Primary prevention through removal of an existing risk factor

D. Tertiary prevention because screening reduces established disability

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Answer key and explanations

1. D - Secondary

Secondary prevention detects disease early and links findings to care.

2. A - Plasmodium

The agent is the organism that causes the disease.

3. B - Reported clinical cases may represent only part of the total burden

Asymptomatic, undiagnosed and unreported cases may remain hidden.

4. A - Secondary prevention

Screening aims to detect disease early and link people to appropriate diagnosis and treatment, which is secondary prevention.

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