BACHELOR OF PHARMACY · SEMESTER IV

BP404T Social Pharmacy and Public Health

Unit III — Preventive Healthcare & Communicable Diseases

Theory · 6 Hours

Student Notes · Final Edition

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CHAPTER 3 — UNIT III: Preventive Healthcare, Health Promotion, and Communicable Diseases (6 Hours)

3.1 Learning Objectives

1. Describe the four levels of prevention with examples.
2. Explain the pharmacist's role in disease prevention and health promotion.
3. Define health education; explain its principles, methods, importance, and how to develop effective materials.
4. Describe antenatal care, postnatal care, breastfeeding, and immunization schedules (MCH).
5. Describe modes of transmission, prevention, and control of TB, HIV/AIDS, malaria, dengue, typhoid, influenza.
6. Explain the pharmacist's role in communicable disease control.

3.2 Definitions

- **Prevention:** Actions taken to stop disease before it occurs (or to stop it from getting worse).
- **Health promotion:** The process of enabling people to take control of their health (healthy lifestyles, supportive environments).
- **Health education:** Planned learning experiences that help people make healthy choices.
- **Immunization:** Giving vaccines to build immunity before disease strikes.
- **Communicable disease:** A disease that spreads from person to person (or via vectors like mosquitoes).

3.3 Terminology

Term	Simple Meaning
Primordial prevention	Stopping risk factors from appearing at all
Primary prevention	Stopping disease before it starts
Secondary prevention	Early detection and treatment
Tertiary prevention	Reducing disability in established disease
Antenatal care	Care of the pregnant woman before delivery
Postnatal care	Care of mother and baby after delivery
Vector	An insect/animal that carries disease (e.g., mosquito)
Screening	Testing healthy-looking people to catch disease early

3.4 Explanation

3.4.1 Levels of prevention: primordial, primary, secondary, tertiary (with examples)

> **Technical concept:** Prevention is layered — each level acts at a different stage of the disease process.

Simple explanation: Think of a river and a village downstream. Primordial = stop people from building houses near the dangerous river. Primary = build a dam. Secondary = rescue boats that catch people early. Tertiary = hospitals for those swept away. Each level still matters.

Level	Meaning	Example
Primordial	Prevent risk factors from developing in the population	Banning tobacco ads so children never start smoking; promoting healthy food habits in schools
Primary	Prevent disease in healthy people	Vaccination; clean drinking water; condoms; masks
Secondary	Detect disease early and treat promptly	BP screening camps; Pap smear; TB sputum testing of contacts
Tertiary	Reduce complications/disability in established disease	Physiotherapy after stroke; diabetic foot care; rehabilitation

Pharmacist examples: primordial — counselling schoolchildren against tobacco; primary — giving vaccines, selling ORS and condoms; secondary — BP/BMI screening at the pharmacy; tertiary — counselling a stroke patient on medicines to prevent another stroke.

3.4.2 Role of pharmacists in disease prevention and health promotion

Technical concept: Pharmacists are the most accessible health professionals. Their prevention roles: immunization services (storage, administration where permitted, record-keeping, AEFI reporting), screening programs (BP, blood sugar, BMI, anaemia), lifestyle counselling (diet, exercise, smoking cessation, alcohol).

Simple explanation: People visit the pharmacy more often than the doctor — for a headache, a cough, a bandage. Each visit is a chance for the pharmacist to check BP, remind about vaccines, or counsel a smoker. The pharmacy counter becomes a *mini health-promotion centre*.

3.4.3 Health education: definition, principles, methods, importance; development of effective materials

Technical concept: Health education = planned learning to help people adopt healthy behaviours. Principles: start from people's felt needs, use simple language, involve the community, repeat messages, use multiple channels, respect culture.

Methods: individual (counselling), group (demonstrations, role plays), mass (posters, radio, social media, street plays).

Importance: knowledge changes behaviour — ORS use, vaccine acceptance, handwashing all rise with education.

Developing effective materials: know your audience (language, literacy); one message per material; short sentences; pictures for low-literacy readers; local examples; pre-test the material with a small group; include a clear action ("Take your child for vaccination every Wednesday").

Simple explanation: A poster that says "Immunize your child" in English in a village where people read Hindi fails. Good health education speaks the people's language, shows pictures, and tells them exactly *what to do and when*.

3.4.4 Mother and child health: antenatal care, postnatal care, breastfeeding, immunization schedules

> **Technical concept:** MCH covers the health of pregnant women, new mothers, and children under five — the most vulnerable groups.

- **Antenatal care (ANC):** regular check-ups during pregnancy — minimum 4 visits, tetanus vaccination, iron-folic acid tablets, BP/urine/blood tests, birth planning, counselling on danger signs.
- **Postnatal care (PNC):** care within 42 days after delivery — check bleeding, infection, breastfeeding support, newborn warmth and feeding, family planning advice.
- **Breastfeeding:** exclusive breastfeeding for the first 6 months (nothing else, not even water), then continued with complementary food up to 2 years. Breast milk is the perfect, free, safe food.
- **Immunization schedules:** as per the National Immunization Schedule (Universal Immunization Programme) — BCG, OPV, Hepatitis B at birth; pentavalent, rotavirus, PCV, IPV, MR as per schedule; use cautious wording and refer to the current schedule card. Pharmacists should guide parents using the official schedule and maintain cold chain for vaccines they store.

Pharmacist's role in MCH: counselling on iron-folic acid adherence, ORS/zinc for diarrhoea, safe breastfeeding, reminding about due vaccines, reporting adverse events following immunization (AEFI).

3.4.5 Communicable diseases: modes of transmission, prevention, control (TB, HIV/AIDS, malaria, dengue, typhoid, influenza); pharmacist's role

> **Technical concept:** Communicable diseases spread through: air (droplets), water/food, vectors (mosquitoes), blood/body fluids, and direct contact.

Disease table:

Disease	Cause (agent)	Transmission	Prevention & Control	Pharmacist's Role
Tuberculosis	*Mycobacterium tuberculosis* (bacteria)	Airborne droplets	BCG, cough hygiene, early diagnosis (sputum test), full 6-month treatment (DOTS), ventilation	Ensure treatment adherence (DOTS support), counsel on completing full course, report cases
HIV/AIDS	HIV (virus)	Blood, sexual contact, mother-to-child	Safe sex (condoms), safe blood, sterile needles, ART for mothers	Dispense ART, counsel on adherence, fight stigma, provide condoms
Malaria	*Plasmodium* (parasite) via *Anopheles* mosquito	Mosquito bite	Bed nets, indoor spraying, draining stagnant water, early diagnosis and treatment	Dispense antimalarials correctly, advise on completing course and nets
Dengue	Dengue virus via *Aedes* mosquito	Mosquito bite (daytime)	Remove stagnant water (coolers, tyres), nets, repellents	Counsel on warning signs, avoid NSAIDs like aspirin/ibuprofen, ORS/fluids
Typhoid	*Salmonella Typhi* (bacteria)	Contaminated water/food	Safe water, sanitation, food hygiene, vaccination	Counsel on completing antibiotics, safe water, hygiene
Influenza	Influenza virus	Airborne droplets	Masks, hand hygiene, vaccination of high-risk groups	Counsel on rest/fluids, correct medicine use, vaccination

> **Simple explanation:** Every disease has a *route* it travels. Block the route, and you block the disease. Mosquito diseases → kill the mosquito's breeding water. Water diseases → clean water. Air diseases → masks and ventilation. Blood diseases → safe needles and safe sex.

Flowchart (describe): Box "Disease agent" → arrow "Route (air/water/vector/blood/contact)" → box "New person infected." Below, a red cross on the arrow labelled "Prevention blocks the route."

Key takeaway: Prevention has four levels; the pharmacist prevents disease at the counter daily; health education must speak the people's language; MCH protects the most vulnerable; every communicable disease is defeated by blocking its transmission route — and the pharmacist helps at every step.

3.5 Infographic Concept Box — Chapter 3

Title: "The Prevention Ladder" — Draw four steps: primordial (fence at top of cliff), primary (dam), secondary (rescue boat), tertiary (hospital) with one pharmacist climbing all steps. Side panel: "MCH shield" — pregnant mother, newborn, vaccine syringe icons. Bottom: six disease cards (TB, HIV, malaria, dengue, typhoid, influenza) each with its transmission route icon and one-line prevention. Corner: health-education poster tips (local language, pictures, one message, clear action).

3.6 Analogies

- Four levels of prevention = fence at cliff top, dam, rescue boat, hospital.
- Health education is like *teaching fishing* instead of giving fish — knowledge lasts.

3.7 Pharmacy Relevance

Pharmacists deliver vaccines, run screening camps, counsel on ANC/PNC, support DOTS for TB, dispense ART, and educate on each disease's prevention.

3.8 India Context

India runs the Universal Immunization Programme (one of the world's largest), TB elimination efforts, and malaria/dengue control programs — pharmacists are frontline partners in all.

3.9 Key Points

1. Four levels: primordial (stop risk factors), primary (stop disease), secondary (early detection), tertiary (reduce disability).
2. Pharmacist prevention roles: immunization, screening, lifestyle counselling.
3. Health education: principles (felt needs, simple language, community involvement); methods (individual, group, mass).
4. MCH: ANC (4+ visits, TT, IFA), PNC (42 days), exclusive breastfeeding 6 months, immunization per national schedule.
5. Six diseases: know agent, route, prevention, control, pharmacist's role.

3.10 Common Confusions

- **Primordial vs primary prevention:** primordial stops *risk factors* from emerging (e.g., anti-tobacco policy); primary stops *disease* in healthy people (e.g., vaccine).
- **Health education vs health promotion:** education is one tool; promotion is the broader process of enabling healthy choices.
- **Dengue mosquito bites in daytime** (Aedes) vs malaria mosquito at night (Anopheles).

3.11 Common Mistakes

1. Listing only three levels of prevention — the syllabus requires four, starting with primordial.
2. Advising aspirin/ibuprofen in dengue — contraindicated; paracetamol is used.
3. Saying breastfeeding "for a few weeks is enough" — exclusive for 6 months is the standard.

3.12 Mnemonics

- Four levels: "**P**lease **P**revent **S**ickness **T**oday" — Primordial, Primary, Secondary, Tertiary.
- ANC components: "**T**etanus, **I**ron, **B**P, **B**irth plan" — TIBB.
- Dengue: "**D**aytime **A**edes" — DA.

3.13 Exam Summary

Prevention: primordial (risk factors), primary (disease), secondary (early detection), tertiary (disability reduction). Pharmacist roles: immunization services, screening (BP/sugar/BMI), lifestyle counselling. Health education: definition, principles, methods (individual/group/mass), developing effective materials (audience, simple language, pictures, one message, pre-test). MCH: ANC, PNC, exclusive breastfeeding 6 months, immunization per national schedule. Communicable diseases: transmission modes; TB/HIV/malaria/dengue/typhoid/influenza — agent, route, prevention, control, pharmacist's role.

3.14 One-Minute Revision

Prevention: P-P-S-T (fence, dam, boat, hospital). Pharmacist: vaccines, screening, counselling. Health education: speak their language, one message, clear action. MCH: ANC, PNC, 6 months exclusive breastfeeding. Block the route = block the disease.

3.15 Exam Questions

Long answer:

1. Describe the four levels of prevention with suitable examples.
2. Discuss the role of pharmacists in disease prevention and health promotion.
3. Describe the prevention and control of tuberculosis and the pharmacist's role.
4. Explain antenatal and postnatal care and the importance of breastfeeding.

Short answer:

1. Differentiate between primordial and primary prevention.
2. List the principles of health education.
3. Name the modes of transmission of communicable diseases.

MCQs:

1. BCG vaccine prevents: (a) TB (b) Malaria (c) Dengue (d) Typhoid — Ans: (a)
2. Dengue spreads through: (a) Aedes mosquito bite (b) Contaminated water (c) Air droplets (d) Blood transfusion — Ans: (a)
3. Secondary prevention means: (a) Early detection and treatment (b) Preventing risk factors (c) Rehabilitation (d) Vaccination — Ans: (a)
4. Exclusive breastfeeding is recommended for: (a) 6 months (b) 3 months (c) 1 month (d) 1 year — Ans: (a)

Viva / application-based:

1. A mother asks when to bring her baby for vaccines — what do you do? (Refer to the national immunization schedule card; remind of due dates.)
2. A dengue patient asks for ibuprofen for fever — your response? (Avoid NSAIDs; advise paracetamol and fluids; watch warning signs.)

3.16 References

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