

# Module-7

Understanding Chronic Illness and Intervention: Coronary Heart Disease, Diabetes Major Symptoms Diagnosis and Psychological Correlates

## Understanding Chronic Illness

### 1. Understanding Chronic Illness

Chronic illness refers to **long-term medical conditions that usually progress slowly and often require continuous management rather than complete cure.**

#### Characteristics of Chronic Illness

1. **Long duration** – lasts months or years.
2. **Often incurable** but manageable.
3. Requires **long-term lifestyle modification and treatment.**
4. Affects **physical, psychological, and social functioning.**
5. Often involves **recurring symptoms and complications.**

## **Psychological Impact of Chronic Illness**

People with chronic illness often experience:

- Stress and anxiety
- Depression
- Fear of complications
- Reduced quality of life
- Difficulty adjusting to lifestyle changes
- Treatment adherence problems

Health psychology studies **how psychological factors influence the onset, progression, and management of chronic diseases.**

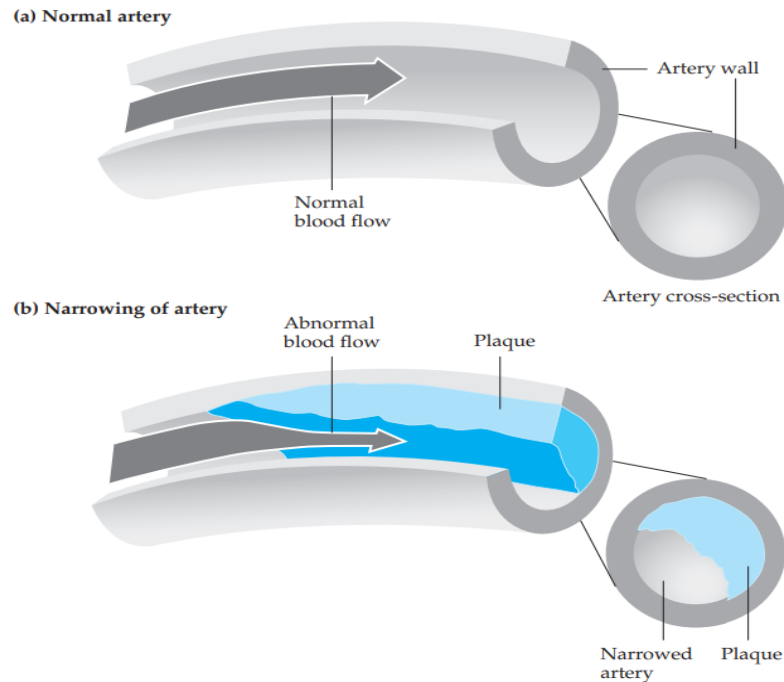
## 2. Coronary Heart Disease (CHD)

### **Definition**

Coronary Heart Disease is a **cardiovascular disorder in which the coronary arteries supplying blood to the heart become narrowed or blocked due to plaque buildup (atherosclerosis).**

This reduces oxygen supply to the heart muscle and may lead to **angina, heart attack, or heart failure.**

**FIGURE 13.1 | Atherosclerosis** The figure shows a normal artery with normal blood flow (figure A) and an artery containing plaque buildup (figure B). (Source: National Heart, Lung, and Blood Institute, 2010a)



## Causes and Risk Factors

- CHD results from both **biological and behavioral factors**.
- **Biological Risk Factors**
  - High cholesterol
  - High blood pressure
  - Obesity
  - Diabetes
  - Genetic predisposition

## **Behavioral Risk Factors**

- Smoking
- Sedentary lifestyle
- Unhealthy diet (high fat, salt)
- Alcohol abuse

## **Psychosocial Risk Factors**

- Chronic stress
- Hostility
- Depression
- Lack of social support

# Major Symptoms of Coronary Heart Disease

## **1. Chest pain (Angina Pectoris)**

1. Pressure or tightness in chest
2. May spread to arms, neck, jaw, or back

## **2. Shortness of breath**

## **3. Fatigue**

## **4. Palpitations**

## **5. Nausea and dizziness**

## **6. Sweating**

## **7. Heart attack symptoms**

1. Severe chest pain
2. Breathlessness

# Diagnosis of Coronary Heart Disease

## **1. Electrocardiogram (ECG)**

- Measures electrical activity of the heart and detects heart damage.

## **2. Stress Test (Treadmill Test)**

- Measures heart function during physical activity.

## **3. Echocardiography**

- Ultrasound imaging of the heart.

## **4. Coronary Angiography**

- A special imaging test showing blockages in coronary arteries.

## **5. Blood Tests**

- To measure cholesterol, triglycerides, and cardiac enzymes.

# Psychological Correlates of Coronary Heart Disease

## 1. Type A Personality

People with **Type A behavior pattern** show:

- Competitiveness
- Impatience
- Hostility
- Aggressiveness

Research shows **hostility is strongly related to heart disease risk.**

## 2. Stress

Chronic stress increases:

- Blood pressure
- Heart rate
- Cortisol levels

These changes increase risk of **atherosclerosis and heart attacks.**

### **3. Depression**

Depression is common after heart attack and may:

- Reduce treatment adherence
- Increase mortality risk
- **4. Anxiety**
- High anxiety leads to:
- Increased sympathetic nervous activity
- Elevated blood pressure

### **5. Social Isolation**

Lack of social support is associated with:

- Poor recovery after cardiac events
- Higher mortality

# Psychological and Behavioral Interventions for CHD

## 1. Lifestyle Modification

- Healthy diet (low fat, low cholesterol)
- Regular physical exercise
- Smoking cessation
- Weight management

## 2. Stress Management

Techniques include:

- Relaxation training
- Meditation
- Deep breathing
- Mindfulness

### **3. Cognitive Behavioural Therapy (CBT)**

CBT helps patients:

- Modify unhealthy thinking patterns
- Improve coping with illness
- Reduce depression and anxiety

### **• 4. Cardiac Rehabilitation Programs**

- These programs combine:
  - Medical treatment
  - Physical exercise
  - Psychological counseling
  - Lifestyle education

# 3. Diabetes Mellitus

## Definition

Diabetes Mellitus is a **chronic metabolic disorder characterized by high levels of glucose (sugar) in the blood due to problems with insulin production or insulin use.**

Insulin is a hormone produced by the pancreas that regulates blood sugar.

## Types of Diabetes

### 1. Type 1 Diabetes

- Autoimmune destruction of insulin-producing cells
- Usually develops in childhood
- Requires insulin injections

### 2. Type 2 Diabetes

- Most common type
- Body becomes resistant to insulin
- Often associated with obesity and lifestyle factors

### 3. Gestational Diabetes

Occurs during pregnancy and usually disappears after childbirth.

# Major Symptoms of Diabetes

The classic symptoms are called the **Three Polys**.

## **1. Polyuria**

Frequent urination.

## **2. Polydipsia**

Excessive thirst.

## **3. Polyphagia**

Excessive hunger.

## **Other Symptoms**

- Fatigue
- Blurred vision
- Slow wound healing
- Frequent infections
- Weight loss (especially in Type 1 diabetes)
- Tingling in hands and feet

# Diagnosis of Diabetes Doctors use several

tests:

## 1. Fasting Blood Glucose Test

Measures blood sugar after fasting.

Normal: less than 100 mg/dL

Diabetes: 126 mg/dL or higher

## • 2. Oral Glucose Tolerance Test (OGTT)

• Measures blood sugar before and after drinking glucose solution.

## • 3. HbA1c Test

• Measures average blood sugar level over the past **2–3 months**.

• Diabetes is diagnosed when **HbA1c  $\geq$  6.5%**.

## • 4. Random Blood Sugar Test

• Blood sugar measured at any time

## Psychological Correlates of Diabetes

### • 1. Stress

• Stress hormones increase blood glucose levels and worsen diabetes control.

### • 2. Depression

• Depression is **twice as common in people with diabetes** and leads to:

• Poor self-care

• Poor medication adherence

• Poor diet control

### **3. Anxiety**

Patients may experience fear of:

- Complications
- Hypoglycemia
- Long-term disability

### **4. Health Beliefs**

Patients' beliefs about illness influence:

- Diet adherence
- Medication use
- Blood glucose monitoring

### **5. Self-efficacy**

People with higher self-efficacy are better able to:

- Manage diet
- Exercise regularly
- Follow treatment plans

# Psychological and Behavioral Interventions for Diabetes

## **1. Diabetes Self-Management Education**

Patients are trained in:

- Monitoring blood glucose
- Insulin administration
- Diet control
- Physical activity

## **2. Cognitive Behavioural Therapy (CBT)**

Helps improve:

- Coping skills
- Depression management
- Treatment adherence

## **3. Lifestyle Interventions**

- Healthy diet
- Regular exercise
- Weight reduction
- Avoid smoking and alcohol

#### **4. Stress Management**

Stress reduction helps control blood glucose levels.

Methods include:

- Yoga
- Meditation
- Relaxation training

#### **5. Social support Programs**

Family and community support improves:

- Motivation
- Treatment compliance
- Emotional wellbeing

Coronary Heart Disease and Diabetes are **major chronic illnesses influenced by both biological and psychological factors.**

Psychological aspects such as **stress, depression, personality traits, and social support** play a significant role in the **development, progression, and management of these diseases.**

Effective management requires **a biopsychosocial approach**, combining **medical treatment, lifestyle changes, and psychological interventions** to improve health outcomes and quality of life.