

PATIENT MEDICATION ADHERANCE

According to the World Health Organization (WHO), medication adherence is defined as:

“The extent to which a person's behavior in taking medications corresponds with the agreed recommendations from a health care provider.”

Importance of Medication Adherence in Patient Care

1. After making a correct diagnosis, the next crucial step is prescribing appropriate medications.
2. The success of treatment depends not only on the accuracy of diagnosis but also on whether the patient takes the medicines correctly.
3. Proper adherence helps in:
 - Reducing disease progression
 - Preventing complications
 - Decreasing hospital admissions
 - Lowering morbidity and mortality
 - Improving quality of life

A. Compliance

1. Refers to passive following of doctor's instructions.
2. Implies that the patient simply obeys medical advice.
3. Does not emphasize shared decision-making.
4. Suggests a paternalistic doctor–patient relationship.

B. Adherence

1. Involves active participation of the patient.
2. Based on mutual agreement between doctor and patient.
3. Includes discussion about:
 - Drug dose
 - Timing
 - Duration
 - Method of administration
4. Encourages shared responsibility in treatment.

C. Concordance

1. A more recent and patient-centered concept.
2. Emphasizes partnership between prescriber and patient.
3. Focuses on mutual respect, shared decision-making, and understanding patient preferences.
4. Reflects a collaborative therapeutic relationship.

Reasons for Poor Adherence

1. Forgetfulness
2. Complex dosing schedules (multiple drugs, frequent dosing)
3. Side effects of medications
4. Lack of understanding about the disease
5. Financial constraints
6. Poor doctor–patient communication
7. Asymptomatic diseases (e.g., hypertension, diabetes)
8. Psychological factors (depression, denial)

9. Cultural beliefs and myths about medicines

10. Lack of family or social support

Advantages of Good Medication Adherence

1. Reduces illness severity
2. Prevents disability
3. Decreases mortality

4. Improves therapeutic outcomes
5. Reduces healthcare costs
6. Prevents drug resistance

Patient Medication Non-Adherence is defined as:

The failure of a patient to take medications as prescribed or agreed upon with the healthcare provider, including incorrect dose, wrong timing, missed doses, early discontinuation, or not taking the medication at all.

Types of Medication Non-Adherence

Medication non-adherence refers to the failure of patients to take their medicines as prescribed. Missing doses may occur either willfully (intentional) or accidentally (unintentional). It is broadly classified into:

1. **Primary non-adherence**
2. **Secondary non-adherence**

1. Primary Non-Adherence: Primary non-adherence occurs when a patient does not get the prescribed medication dispensed or never starts the prescribed therapy.

1. Prescriptions are written but never filled.
2. Treatment is never initiated.
3. Common in chronic diseases like hypertension and diabetes.

Reasons:

1. High cost of medicines
2. Fear of side effects
3. Lack of belief in diagnosis
4. Poor access to pharmacy
5. Cultural beliefs or denial of illness

2. Secondary Non-Adherence: Secondary non-adherence occurs when a patient starts the medication but does not take it as prescribed.

It is further classified into:

(a) Intentional Non-Adherence: Intentional non-adherence occurs when a patient deliberately deviates from the prescribed treatment plan.

Reason: This type reflects a conscious decision by the patient.

1. Fear of adverse effects
2. Misconceptions about long-term drug use
3. Feeling better and thinking medication is no longer needed
4. Lack of trust in healthcare provider

5. Influence of family, friends, or social media

Examples:

1. Taking fewer doses than prescribed
2. Taking more doses expecting faster relief
3. Stopping medicine once symptoms improve
4. Skipping doses due to perceived side effects
5. Taking medicines with restricted foods or alcohol
6. Incorrect use of inhalers, insulin pens, or other device

(b) Unintentional Non-Adherence : Unintentional non-adherence occurs when a patient wants to follow treatment but fails due to practical barriers.

Reasons: This type is **not deliberate** and often can be improved with counseling, pill organizers, reminder systems, and better communication.

1. Complex drug regimens (polypharmacy)
2. Poor health literacy
3. Memory problems
4. Physical disability
5. Lack of reminders

Examples:

1. Forgetting doses
2. Confusing drug schedules
3. Misunderstanding instructions
4. Cognitive impairment (elderly patients, dementia)
5. Poor vision leading to wrong medication use
7. Language barriers

Classification of Medication Non-Adherence Based on Extent of Drug Use

Medication adherence can also be categorized depending on the percentage of prescribed doses taken by the patient.

1. Adherent

1. A person is considered **adherent** when he or she takes **more than 80%** of the prescribed doses.
2. Adequate therapeutic response
3. Better disease control
4. Reduced risk of complications

5. Improved long-term outcomes

2. Partially Adherent

1. A person is termed **partially adherent** when he or she takes **70–80%** of the prescribed doses.
2. Suboptimal therapeutic effect
3. Increased risk of treatment failure

4. Possibility of disease progression

1. A person is considered **non-adherent** when he or she takes **less than 70%** of the prescribed doses.

4. Increased morbidity and hospitalization
5. Risk of drug resistance (especially in infections)
6. Higher healthcare cost

3. Non-Adherent

2. Significance:

3. Poor disease control

Intelligent Non-Adherence : The term intelligent non-adherence was first coined by Weintraub.

Intelligent non-adherence refers to a situation where a patient deliberately stops taking medication due to adverse effects (such as nausea, vomiting, gastric irritation, dizziness, etc.), and observes improvement in symptoms after discontinuation.

- The patient makes a conscious decision.
- It is based on personal observation of side effects.
- It may indicate poor communication between doctor and patient.
- Often occurs when patients are not adequately counseled about expected adverse effects.

Clinical Perspective:

Although termed “intelligent,” stopping medication without consulting a healthcare provider may worsen the disease condition. Proper counseling can prevent such behavior.

Intelligent non-adherence: Deliberate stopping of medication due to adverse effects without consulting the physician.

High adherence required in:

Metabolic disorders, chronic diseases, epilepsy, and chronic infectious diseases.

Consequences of medication non-adherence include:

1. Poor health outcomes
2. Increased healthcare utilization
3. High healthcare expenditure
4. Treatment failure and disease recurrence
5. Development of drug resistance
6. Decreased quality of life

Factors Affecting Medication Adherence

The World Health Organization (WHO) describes medication adherence as a **multidimensional phenomenon**, meaning that many interrelated factors influence whether a patient takes medicines as prescribed.

These factors are classified into five major categories:

1. Social and economic factors

2. Health care system factors
3. Condition-related factors
4. Therapy-related factors
5. Patient-related factors

1. Social and Economic Factors

These factors relate to the patient's social environment, financial status, and support systems.

a) Low Health Literacy

1. Patients may not understand:
 - a. Disease nature
 - b. Importance of long-term therapy
 - c. Dosing instructions
2. Leads to incorrect or irregular medication use.

b) Lack of Social or Family Support

1. No one to remind or encourage medication use.
2. Elderly patients living alone are especially vulnerable.

c) Unstable Living Conditions

1. Homelessness or frequent relocation.
2. Difficulty storing medicines properly.
3. Poor follow-up with healthcare providers.

d) Busy Lifestyle

1. Work pressure or business schedules.

2. Forgetting doses due to hectic routines.

e) Limited Access to Healthcare

1. Remote location of health facilities.
2. Transportation issues.
3. Long waiting times in hospitals.

f) Financial Constraints

1. High cost of medications.
2. Lack of insurance coverage.
3. Patients may skip doses to save money.

g) Cultural Beliefs and Misconceptions

1. Preference for traditional remedies.
2. Belief that chronic medications cause harm.
3. Stopping treatment when symptoms improve.

2. Health Care System Factors

These involve the healthcare infrastructure and provider–patient interaction.

a) Poor Communication

- Inadequate explanation of disease and treatment. Use of complex medical terms.
- Lack of counseling about side effects.

b) Provider–Patient Belief Disparity

- Differences in understanding of illness.

- Patients may not agree with the diagnosis or treatment plan.

c) Inadequate Reinforcement

- Lack of regular follow-up.
- No reminders or reinforcement about adherence.

d) Lack of Patient Education Systems

- No structured programs to educate patients.
- Insufficient disease awareness initiatives.

e) Lack of Continuity of Care

- Changing doctors frequently.
- Poor medical record maintenance
- Inconsistent advice.

3. Condition-Related Factors

These are related to the nature and characteristics of the disease.

a) Decrease or Disappearance of Symptoms

- Patients stop medication when they feel better.
- Common in:
 - Hypertension
 - Diabetes
 - Tuberculosis

b) Asymptomatic Diseases

- No visible symptoms → patient assumes no need for medication.

c) Psychiatric Disorders

- Depression reduces motivation.
- Schizophrenia or bipolar disorder affects judgment. Memory problems in dementia.

d) Chronicity of Disease

- Long-term treatment causes “treatment fatigue.”

4. Therapy-Related Factors

These are directly related to the treatment regimen itself.

a) Complexity of Regimen

- Multiple drugs (polypharmacy).
- Frequent dosing (e.g., 3–4 times daily).
- Confusing schedules.

b) Special Techniques Required

- Inhalers for asthma.
- Insulin injections.
- Incorrect technique reduces effectiveness.

c) Long Duration of Therapy

- Lifelong therapy (e.g., diabetes, hypertension).
- Long TB treatment (6 months or more).

d) Frequent Changes in Therapy

- Dose adjustments.
- Switching medications.

- Causes confusion.

e) Lack of Immediate Benefit

- Preventive medicines (e.g., statins) show no immediate symptom relief.
- Patients lose motivation.

f) Side Effects

- Nausea, dizziness, weight gain, sexual dysfunction.
- Fear of adverse effects leads to discontinuation.

g) Social Stigma

- HIV or psychiatric medications.
- Fear of discrimination.

h) Lifestyle Interference

- Dietary restrictions.
- Alcohol avoidance.
- Need for strict timing.

5. Patient-Related Factors

These are individual patient characteristics affecting adherence.

a) Physical Limitations

- Visual impairment (cannot read labels).
- Hearing impairment (misses instructions).
Reduced dexterity (difficulty opening bottles).
- Swallowing problems (difficulty taking tablets).

b) Cognitive Impairment

- Memory loss.
- Confusion about dose timing.

c) Lack of Knowledge

- Poor understanding of disease.
- Unawareness of complications.

d) Psychological Factors

- Anxiety, stress, anger.
- Fear of dependency on medicines.
- Lack of motivation.

e) Fear of Adverse Effects

- Concern about long-term harm.
- Influence of misinformation from media.

Formula to Calculate Medication Adherence

The percentage of medication adherence is calculated using the following formula:

In Simple Words

$\% \text{ Adherence} = \text{Actual doses taken} / \text{Total No of doses} * 100$

Example

If a patient was prescribed:

- 2 tablets daily for 30 days
- Total prescribed doses = $2 \times 30 = 60$ doses

Role of Pharmacist in Improving Medication Adherence

Pharmacists play a vital role in improving medication adherence because they are easily accessible healthcare professionals and have direct interaction with patients at the time of dispensing.

1. Patient Education and Counseling : Effective counseling improves understanding and motivates patients to follow therapy correctly.

1. Explain the name and purpose of the drug.
2. Instruct when and how to take the medication.
3. Inform about possible side effects and precautions.
4. Explain duration of therapy and importance of completing the course.
5. Guide patients on what to do if a dose is missed.

2. Demonstration of Drug Administration Techniques

1. Teach correct use of inhalers, insulin injections, eye drops, etc.

2. Correct improper techniques that may reduce drug effectiveness.
3. Repeated demonstrations improve long-term adherence.

3. Simplification of Drug Regimens

1. Suggest to prescribers reducing dosing frequency.
2. Recommend fixed-dose combinations when appropriate.
3. Simplified regimens improve patient compliance.

4. Identifying and Addressing Barriers

1. Assess financial difficulties.
2. Identify fear of adverse effects.
3. Recognize cognitive or physical limitations (e.g., difficulty swallowing tablets).
4. Provide practical solutions such as pill organizers or medication charts.

5. Improving Pharmacist–Patient Relationship: A strong therapeutic relationship increases trust and adherence.

1. Be friendly and approachable.
2. Use clear and simple language.
3. Encourage patients to discuss concerns.
4. Involve patients in treatment decisions.

6. Monitoring and Follow-Up

1. Monitor therapeutic outcomes.
2. Assess side effects.
3. Reinforce adherence during follow-up visits.
4. Provide continuous support, especially in chronic diseases.

7. Providing Medication Aids

1. Medication reminder cards.
2. Dosette boxes (pill organizers).
3. Written instructions in local language.