

WELCOME TO



This is an Education Platform

We Provide PDF Notes for Pharmacy Students

Web Site <http://www.fdspharmacy.in/>

You tube <https://www.youtube.com/c/FDSpharmacy>

Telegram <https://t.me/Fdspharmacy>

App <https://play.google.com/store/apps/details?id=com.FDSPharmacyMedia.FDSPharmacy>

E-mail fdspharmacyinfo@gmail.com

Bachelor of Pharmacy Biopharmaceutics and Pharmacokinetics

NOTES

- ✓ Unit 1 **All Unit**
- ✓ Unit 2 **in**
- ✓ Unit 3 **One PDF**
- ✓ Unit 4
- ✓ Unit 5

Visit our Website WWW.fdspharmacy.in



Bachelor of Pharmacy Herbal Drug Technology

NOTES

- ✓ Unit 1 **All Unit**
- ✓ Unit 2 **in**
- ✓ Unit 3 **One PDF**
- ✓ Unit 4
- ✓ Unit 5

Visit our Website WWW.fdspharmacy.in



Bachelor of Pharmacy Medicinal Chemistry III

NOTES

- ✓ Unit 1 **All Unit**
- ✓ Unit 2 **in**
- ✓ Unit 3 **One PDF**
- ✓ Unit 4
- ✓ Unit 5

Visit our Website WWW.fdspharmacy.in



Bachelor of Pharmacy Pharmaceutical Biotechnology

NOTES

- ✓ Unit 1 **All Unit**
- ✓ Unit 2 **in**
- ✓ Unit 3 **One PDF**
- ✓ Unit 4
- ✓ Unit 5

Visit our Website WWW.fdspharmacy.in



Bachelor of Pharmacy Pharmacology III

NOTES

- ✓ Unit 1 **All Unit**
- ✓ Unit 2 **in**
- ✓ Unit 3 **One PDF**
- ✓ Unit 4
- ✓ Unit 5

Visit our Website WWW.fdspharmacy.in



Bachelor of Pharmacy Quality Assurance

NOTES

- ✓ Unit 1 **All Unit**
- ✓ Unit 2 **in**
- ✓ Unit 3 **One PDF**
- ✓ Unit 4
- ✓ Unit 5

Visit our Website WWW.fdspharmacy.in





D.Pharma B.Pharma

- 👉 PDF Notes
- 👉 Practical Manual
- 👉 Important Questions
- 👉 Assignment etc

 **Download Now**



www.fdpharmacy.in

PHARMACOLOGY - III

UNIT 3

TOPIC :

- c. Antifungal agents



Antifungal Agents

- Antifungal agents are the drugs used for the prevention and treatment of fungal infections caused by pathogenic fungi.
- These drugs either kill fungi (fungicidal action) or inhibit their growth (fungistatic action).

Introduction to Fungal Infections

Fungal infections are called **mycoses**.

They may affect:

- Skin
- Hair
- Nails
- Mucous membranes
- Internal organs

Types of Fungal Infections

1. Superficial Fungal Infections

- Affect skin, hair, and nails.

Examples

- Ringworm
- Athlete's foot
- Candidiasis

2. Systemic Fungal Infections

- Affect internal organs.

Examples

- Histoplasmosis
- Aspergillosis
- Cryptococcosis

Classification of Antifungal Agents

1. Polyene Antibiotics

Examples

- Amphotericin B
- Nystatin

2. Azoles

a) Imidazoles

- Clotrimazole
- Miconazole
- Ketoconazole

b) Triazoles

- Fluconazole
- Itraconazole
- Voriconazole

3. Echinocandins

Examples

- Caspofungin
- Micafungin

4. Allylamines

Examples

- Terbinafine
- Naftifine

5. Antimetabolites

Example

- Flucytosine

6. Miscellaneous Drugs

- Griseofulvin

Antifungal Drugs

1. Amphotericin B

→ Amphotericin B is a polyene antifungal antibiotic used mainly for severe systemic fungal infections.

Mechanism of Action

→ It binds to ergosterol in fungal cell membrane and forms pores.

→ This causes:

- Leakage of cell contents
- Fungal cell death

Uses

- Systemic fungal infections
- Cryptococcal meningitis
- Aspergillosis

Adverse Effects

- Fever
- Chills
- Nephrotoxicity
- Anemia

2. Nystatin

→ Nystatin is a polyene antifungal used mainly for superficial Candida infections.

Mechanism of Action

- Binds to ergosterol and damages fungal cell membrane.

Uses

- Oral candidiasis
- Vaginal candidiasis
- Skin fungal infections

Adverse Effects

- Nausea
- Skin irritation

3. Azoles

→ Azoles are antifungal drugs that inhibit fungal ergosterol synthesis.

Mechanism of Action

They inhibit fungal enzyme:

- 14- α demethylase

This decreases ergosterol synthesis and damages fungal cell membrane.

Important Azoles

a) Clotrimazole

Uses

- Ringworm
- Athlete's foot
- Vaginal candidiasis

b) Ketoconazole

Uses

- Fungal skin infections

Adverse Effects

- Hepatotoxicity
- Endocrine disturbances

c) Fluconazole

Uses

- Candidiasis
- Cryptococcal meningitis

Advantages

- Good oral absorption
- Good CSF penetration

d) Itraconazole

Uses

- Histoplasmosis
- Aspergillosis

4. Echinocandins

→ Echinocandins are antifungal drugs that inhibit fungal cell wall synthesis.

Examples

- Caspofungin
- Micafungin

Mechanism of Action

Inhibit synthesis of:

- β -(1,3)-D-glucan

This weakens fungal cell wall.

Uses

- Invasive candidiasis
- Aspergillosis

Adverse Effects

- Fever
- Rash
- Liver toxicity

5. Terbinafine

→ Terbinafine is an allylamine antifungal mainly used for dermatophyte infections.

Mechanism of Action

Inhibits:

- Squalene epoxidase enzyme

This blocks ergosterol synthesis.

Uses

- Nail fungal infections
- Ringworm

Adverse Effects

- Headache
- GI disturbances
- Hepatotoxicity