3.1: Antimicrobials Introduction

Learning Objectives

- Identify the classifications and actions of antimicrobial medications
- Give examples of when, how, and to whom antimicrobial drugs may be administered
- Identify the side effects and special considerations associated with antimicrobial therapy
- Include considerations and implications of using antimicrobial medications across the lifespan
- Include evidence-based concepts when using the nursing process
- Identify and interpret related laboratory tests

Have you ever been prescribed an antibiotic for an infection and asked, “Why do I have to finish taking all these pills when I already feel better”? Or, perhaps you wondered why the healthcare provider chose a certain medication over another or why the pharmacist told you to avoid certain foods when taking a certain antibiotic.

You may have had these questions in your own healthcare experiences. It is important to remember that if you have these questions, many of your patients will as well. Learning about the various types of antimicrobials and how they work will help you provide better health education to your patients.

Did you know that the use of antimicrobial agents dates back to ancient times?

Although the discovery of antimicrobials and their subsequent widespread use is commonly associated with modern medicine, there is evidence that humans have been exposed to antimicrobial compounds for millennia. Chemical analyses of the skeletal remains of people from between 350 and 550 AD of people living near the Nile River have shown residue of the antimicrobial agent tetracycline in high enough quantities to suggest the purposeful fermentation of tetracycline-producing Streptomyces during the beer-making process. The resulting beer, which was thick and gruel-like,
was used to treat a variety of ailments in both adults and children, including gum disease and wounds.

Additionally, the antimicrobial properties of plants and honey have been recognized by various cultures around the world, including Indian and Chinese herbalists who have long used plants for a wide variety of medical purposes. Healers of many cultures understood the antimicrobial properties of fungi, and their use of moldy bread or other mold-containing products to treat wounds have been well documented for centuries.[1]

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