chapter 41

Antiparasitics

Objectives

AFTER STUDYING THIS CHAPTER, THE STUDENT WILL BE ABLE TO:

1. Describe environmental and other major factors in prevention and recognition of selected parasitic diseases.
2. Discuss assessment and treatment of pinworm infestations and pediculosis in school-age children.
3. Discuss the drugs used to treat *Pneumocystis carinii* pneumonia in clients with acquired immunodeficiency syndrome.
4. Teach preventive interventions to clients planning travel to a malarious area.

Critical Thinking Scenario

You are the school nurse in an elementary school. There is an outbreak of head lice in one of the fourth grade classrooms. Four girls are affected. You are responsible for identifying infested students and developing prevention programs.

Reflect on:

- How infested children feel.
- How the parents feel when they find out their child has head lice.
- Appropriate infection control measures to prevent the spread of head lice to other children in the classroom or family members.
- Teaching about the safe use of topical agents such as Nix.

OVERVIEW

A parasite is a living organism that survives at the expense of another organism, called the *host.* Parasitic infestations are common human ailments worldwide. The effects of parasitic diseases on human hosts vary from minor to major and life threatening. Parasitic diseases in this chapter are those caused by protozoa, helminths (worms), scabies, and pediculi (lice). Protozoa and helminths can infect the digestive tract and other body tissues; scabies and pediculi affect the skin.

PROTOZOAL INFECTIONS

Amebiasis

Amebiasis is a common disease in Africa, Asia, and Latin America, but it can occur in any geographic region. In the United States it is most likely to occur in residents of institutions for the mentally retarded, homosexual and bisexual men, and residents or travelers in countries with poor sanitation.

Amebiasis is caused by the pathogenic protozoan *Entamoeba histolytica*, which exists in two forms. The cystic form is inactive and resistant to a number of factors, including drugs, heat, cold, and drying. The cystic form can survive outside the body for long periods. Amebiasis is transmitted by the fecal–oral route, such as ingesting food or water contaminated with human feces containing amebic cysts. Once ingested, some cysts open in the ileum to release amebae, which produce trophozoites. Other cysts remain intact to be expelled in feces and continue the chain of infection. Trophozoites are active amebae that feed, multiply, move about, and produce clinical manifestations of amebiasis. Trophozoites produce an enzyme that allows them to invade body tissues. They may form erosions and ulcerations in the intestinal wall with resultant diarrhea (this form of the disease is called *intestinal amebiasis* or *amebic dysentery*), or they may penetrate blood vessels and be carried to other organs, where they form abscesses. These abscesses are usually