

further spread of the disease. Additionally, some agents can cause *latent infection* and persist in the host for a long period and still cause disease after a certain amount of time.

The *mortality rate* is the proportion of the number of deaths in relation to the number of ill people over a certain time span.

3. BASIC TERMS AND DEFINITIONS

Contamination refers to the accidental input of infectious material such as bacteria, fungi, moulds, viruses, prions, parasites, their toxins, or other products into biological material. It does not require interaction between the microorganism and the host; thus, it is not labelled as an infection but merely as coexistence (*commensalism*) of the microorganism and the host.

Colonisation is the first phase in the microorganism-host relationship and marks the invasion of the microbe in the host and the beginning of the microorganism's population process. This usually happens on bodily surfaces, which the microorganism uses as the location of entry into the host (mucosa of the respiratory, gastrointestinal, and urogenital systems and also the skin). Colonisation is a process that begins immediately after birth and results in the formation of the so-called normal (saprophytic) flora that is most abundant in the bowel, mouth and on the skin.

The *saprophytic flora* consists of bacteria that do not multiply in a living organism during normal conditions but that live on its surfaces and feed on cell detritus. They usually do not cause disease in immunocompetent hosts, although some microorganisms may cause damage via the toxins they excrete.

The *carrier state* can be a chronic infection due to the ineffectiveness of the defensive mechanisms in eliminating pathogens; as such, the infected individual becomes a reservoir and can transfer microorganisms to other (non-immune) individuals. This type of infection develops after the patient recovers from the disease (e.g., hepatitis B) and lasts for the remaining life span without endangering the host. The carrier state can also follow after recovery from an infectious disease and may disappear after some time. That is the so-called *convalescent carrier state*, which is common after infectious diarrhoea (e.g., *Campylobacter*, *Salmonella enteritidis*, rotavirus). Furthermore, the carrier state does not have to follow an infectious disease at all but can emerge as its own entity (e.g., meningococcal carrier state which may evolve into an active disease but does stimulate specific immunity). In addition, a carrier state can exist without infection but merely as colonisation of bodily surfaces, which does not stimulate formation of immunity in the host (e.g., non-typeable *Haemophilus*, *S. aureus*). Although carriers are a source of microorganisms and have the potential to spread them to others, some strains cause only a carrier state and differ from infectious strains. These are generally less invasive strains, and it is uncertain if they cause disease in immunocompetent hosts (e.g., *S. pyogenes*). The duration of the carrier state may be temporary, periodic (intermittent), or permanent (persistent).

Parasitism refers to the presence of microorganisms that exploit the host as a source of nutrients.

Pathogenicity is the ability of a microorganism to penetrate into the human organism, remain and multiply, and finally disseminate via the blood and lymph throughout the body and cause disease. The pathogenicity of an organism, namely its ability to cause disease, is determined by virulence factors. Pathogenic microorganisms are microorganisms that cause