**Definition and Overview**

Illness is a broad term that defines the poor state of mind, body, and, to a certain extent, spirit. It is the general feeling of being sick or unwell (outside the person’s belief of good health).

Many people tend to use disease and illness in the same breath, but there are very subtle distinctions. Disease refers to the affliction of a specific organ or the entire body due to a harmful microorganism such as bacteria or virus, injury, chemical imbalances in the body, exposure to toxins, and production of immature cells. Examples of diseases are cancer, fractures, diabetes, cirrhosis, and psoriasis, among others. The same thing goes for mental health issues such as bipolar disorder, clinical depression, and schizophrenia.

Illness, on the other hand, is the reaction of the body to the disease. It represents fatigue, fever, muscle weakness, or blurred vision, as well as abnormal blood pressure and a rapid heart rate. It should be noted though that illness, or the feeling of being unwell or sick, can occur even without a disease.

Another distinction between a disease and an illness is its specificity. A disease is based on specific factors or criteria that doctors are looking for when a patient goes into the clinic or hospital to be examined. An illness, meanwhile, can refer to any disease. Also, because it’s largely a feeling, it can be different among patients.

**Causes of Illness:**

An illness can be caused by a number of factors such as the following:

**The presence of diseases –** Usually, illness occurs because the body has an underlying disease. The body is designed to provide a natural response to any abnormality or threat, whether it’s a bacterium, virus, or excessive production of immature cells. But in the process, such reaction can make a person feel sick. A good example is allergy. Allergy develops when the immune system tries to kill the threat and releases histamines in the process. Nevertheless, a person may also have a disease but not feel unwell. Diseases such as HIV, AIDS, and even cancer can take months or years before they progress and make a person feel unwell.

**Hypochondriasis –** Hypochondriasis is the reason why people can “feel ill” even without a disease. This is a condition that refers to the abnormal or moderate to severe anxiety of having a disease. A simple change in the body temperature may be considered by a hypochondriac as a fever or a symptom of a serious disease like cancer. Hypochondriasis is further fueled these days by the Internet. A person can now quickly and easily search for symptoms or self-diagnose.

**Stress –** Stress is a natural response of the body to a trigger. The body is designed to take either a fight-or-flight mode when in a stressful situation. Either way, it can increase the heart rate, blood pressure, and can lead to the production of a hormone called cortisol, which can make a person ill when stress becomes chronic.

**Malnutrition –** As a complex structure, the body needs different kinds of enzymes, vitamins, minerals, and other macro and micronutrients to function properly. In the long term, if the body becomes deficient in any of these, it can feel ill.

In alternative medicine, such as CTM (Chinese traditional medicine), an illness may be caused by a blockage of the energy flow (qi).

**Key Symptoms**

Illness has ambiguous symptoms such as:

* Dizziness
* Diarrhea
* Chest pain (or any type of pain)
* Anxiety
* Fatigue
* Abnormal heart rate and blood pressure
* Blurred vision
* Tremors

These symptoms may refer to several kinds of diseases, or they may have been exaggerated depending on how a person defines his illness.

**Social Determinants of Disease**

* Availability of resources to meet daily needs (e.g., safe housing and local food markets)
* Access to educational, economic, and job opportunities
* Access to health care services
* Quality of education and job training
* Transportation options
* Public safety
* Social support
* Culture, Social norms and attitudes (e.g., discrimination, racism, and distrust of government)
* Exposure to crime, violence, and social disorder (e.g., presence of trash and lack of cooperation in a community)
* Socioeconomic conditions (e.g., concentrated poverty and the stressful conditions that accompany it)
* Language
* Access to mass media and emerging technologies (e.g., cell phones, the Internet, and social media)

**Study of Prevalent Diseases:**

**1. Tuberculosis**

TB usually affects the lungs, although it can spread to other organs around the body.

Doctors make a distinction between two kinds of tuberculosis infection: latent and active.

**Latent TB -** the bacteria remain in the body in an inactive state. They cause no symptoms and are not contagious, but they can become active.

**Active TB -** the bacteria do cause symptoms and can be transmitted to others.

About one-third of the world's population is believed to have latent TB. There is a 10 percent chance of latent TB becoming active, but this risk is much higher in people who have compromised immune systems i.e., people living with HIV or malnutrition, or people who smoke.

TB affects all age groups and all parts of the world. However, the disease mostly affects young adults and people living in developing countries. In 2012, 80 percent of reported TB cases occurred in just 22 countries.

**Symptoms of tuberculosis**

While latent TB is symptomless, the symptoms of active TB include the following:

* Coughing, sometimes with mucus or blood
* Chills
* Fatigue
* Fever
* Loss of weight
* Loss of appetite
* Night sweats

Tuberculosis usually affects the lungs, but can also affect other parts of the body. When TB occurs outside of the lungs, the symptoms vary accordingly. Without treatment, TB can spread to other parts of the body through the bloodstream:

* TB infecting the bones can lead to spinal pain and joint destruction
* TB infecting the brain can cause meningitis
* TB infecting the liver and kidneys can impair their waste filtration functions and lead to blood in the urine
* TB infecting the heart can impair the heart's ability to pump blood, resulting in a condition called cardiac tamponade that can be fatal

**Prevention of tuberculosis**

**Face mask**

If you have active TB, a face mask can help lower the risk of the disease spreading to other people.

A few general measures can be taken to prevent the spread of active TB.

Avoiding other people by not going to school or work, or sleeping in the same room as someone, will help to minimize the risk of germs from reaching anyone else. Wearing a mask, covering the mouth, and ventilating rooms can also limit the spread of bacteria.

**TB vaccination**

In some countries, BCG injections are given to children in order to vaccinate them against tuberculosis. It is not recommended for general use in the U.S. because it is not effective in adults, and it can adversely influence the results of skin testing diagnoses.

The most important thing to do is to finish entire courses of medication when they are prescribed. MDR-TB bacteria are far deadlier than regular TB bacteria. Some cases of MDR-TB require extensive courses of chemotherapy, which can be expensive and cause severe adverse drug reactions in patients.

**2. Malaria**

Over 100 types of Plasmodium parasite can infect a variety of species. They replicate at different rates, and this affects how quickly the symptoms escalate, and the severity of the disease.

Five types of Plasmodium parasite can infect humans. They are found in different parts of the world. Some cause a more severe type of malaria than others.

**Symptoms**

Malaria symptoms can be classified into two categories: uncomplicated and severe malaria.

**Uncomplicated malaria**

This is diagnosed when symptoms are present, but there are no signs to indicate severe infection or dysfunction of the vital organs.

This form can become severe malaria if left untreated, or if the host has poor or no immunity.

Symptoms of uncomplicated malaria typically last 6 to 10 hours and recur every second day. Some strains of the parasite can have a longer cycle or cause mixed symptoms.

As symptoms resemble those of flu, they may be undiagnosed or misdiagnosed in areas where malaria is less common.

In uncomplicated malaria, symptoms progress as follows, through cold, hot, and sweating stages:

* a sensation of cold with shivering
* fever, headaches, and vomiting
* seizures sometimes occur in younger people with the disease
* sweats, followed by a return to normal temperature, with tiredness

In areas where malaria is common, many patients recognize the symptoms as malaria and treat themselves without visiting a doctor.

**Severe malaria**

In severe malaria, clinical or laboratory evidence shows signs of vital organ dysfunction.

Symptoms of severe malaria include:

* fever and chills
* impaired consciousness
* prostration, or adopting a prone position
* multiple convulsions
* deep breathing and respiratory distress
* abnormal bleeding and signs of anemia
* clinical jaundice and evidence of vital organ dysfunction

**Severe malaria can be fatal without treatment.**

**Causes**

Malaria happens when a bite from the female Anopheles mosquito infects the body with Plasmodium. Only the Anopheles mosquito can transmit malaria.

The successful development of the parasite within the mosquito depends on several factors, the most important being humidity and ambient temperatures.

When an infected mosquito bites a human host, the parasite enters the bloodstream and lays dormant within the liver.

The host will have no symptoms for an average of 10.5 days, but the malaria parasite will begin multiplying during this time.

The new malaria parasites are then released back into the bloodstream, where they infect red blood cells and multiply further. Some malaria parasites remain in the liver and are not released until later, resulting in recurrence.

An unaffected mosquito becomes infected once it feeds on an infected individual. This restarts the cycle.

**Treatment and prevention**

Treatment aims to eliminate the Plasmodium parasite from the patient's bloodstream.

Those without symptoms may be treated for infection to reduce the risk of disease transmission in the surrounding population.

**Artemisinin-**based combination therapy (ACT) is recommended by the WHO to treat uncomplicated malaria.

Artemisinin is derived from the plant Artemisia annua, better known as sweet wormwood. It is known for its ability to rapidly reduce the concentration of Plasmodium parasites in the bloodstream.

ACT is artemisinin combined with a partner drug. The role of artemisinin is to reduce the number of parasites within the first 3 days of infection, while the partner drugs eliminate the rest.

Expanding access to ACT treatment worldwide has helped reduce the impact of malaria, but the disease is becoming increasingly resistant to the effects of ACT.

In places where malaria is resistant to ACT, treatment must contain an effective partner drug.

The WHO has warned that no alternatives to artemisinin are likely to become available for several years.

**Vaccination**

Research to develop safe and effective global vaccines for malaria is ongoing, with one vaccine already licensed for use in Europe. No vaccine is yet licensed in the U.S.

It is essential to seek medical attention for suspected symptoms of malaria as early as possible.