

## A mini review of disease, illness, sickness, and related terms for non-epidemiologists

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### Abstract

**Background:** Disease, illness, and sickness are all overlapping terms that are not entirely synonymous. Illness, disease, and sickness all characterize different aspects of morbidity and must be treated as distinct entities. Changes in one aspect may have no bearing on changes in another. Despite their widespread use, these terms are used incorrectly and ambiguously, leading to confusion in the representation of medical knowledge. Medical personnel and epidemiologists misuse these terms, and there is little literature on the subject.

**Methods:** PubMed and Google Scholar were used to conduct a literature search. The search terms "definition," "disease," "illness," "sickness," "morbidity," "syndrome," "disorder," "predisease," and "co-morbidity" were used in various combinations. A manual search was conducted in public health, community medicine, and epidemiology textbooks. The review included the most recent and relevant literature.

**Results:** This mini review summarizes the definition, limitations, overlap, and differences between disease, illness, and sickness, as well as other related terms.

**Conclusion:** A measurable operational definition of disease, illness, sickness, and other related terms that is appropriate for epidemiologists and clinicians and applicable in both hospital and community settings is required.

**Keywords:** Disease, Illness, Sickness, Syndrome, Morbidity.

### Introduction

Health, but not disease, has been defined by the World Health Organization. Many attempts have been made to define disease, illness, and sickness. Disease and health are difficult concepts to define precisely. Because disease and health are mutually exclusive concepts, the simplest definition of disease is any deviation from a state of complete physical, mental, and social well-being. This definition of disease is inadequate because it is not measurable and does not provide a criterion for determining when a disease state begins (1,2).

The disease ranges from subclinical (invisible) to severe manifest and complicated cases. Some

diseases are severe, while others are subtle. The same disease may have multiple causes; additionally, the same cause may result in multiple diseases (1,3).

There is also distinction between the words' disease, illness, and sickness, which are not entirely synonymous. Disease, illness, and sickness are not synonymous or interchangeable terms. Disease literally means uneasiness (absence of ease), the inverse of ease. The presence of a specific disease, as well as the individual's perceptions and behavior in response to the disease, are referred to as illness. Sickness is defined as a state of social dysfunction (1,4).

The clinician sees sick people rather than diseased people who must be diagnosed and treated. It is

possible, however, to be a victim of disease without feeling ill, and to be ill without showing signs of physical impairment (1). Table 1 summarizes the differences between disease, illness, sickness, and related terms. These distinctions must be taken into account in epidemiologic and community studies of disease burden.

## Methods

This mini review included the most recent scientific literature on disease, illness, sickness, and other related terms. On September 20, 2022, a literature search was conducted using PubMed and Google Scholar. The search terms "definition," "disease," "illness," "sickness," "morbidity," "syndrome," "disorder," "predisease," and "co-morbidity" were used in various combinations. A manual search was conducted in public health, community medicine, and epidemiology textbooks. All English-language articles and books were read and evaluated for inclusion. The review included the most relevant text and definitions of the study terms, as well as more recent literature, if there were many references with the same content.

The **disease** is difficult to define because it is influenced by social and cultural perspectives. Disease refers to a condition that causes morbidity. The medical definition of the disease state is either missing or inadequate (2,3).

A disease is a medical condition that has been diagnosed by a doctor. A specific diagnosis with standardized codes, a biomedical cause, and effective treatments are all part of this. However, many diagnoses are based on a person's subjective reporting, and others are based on syndromes and are not very specific (4). Disease is a medical condition caused by a pathological process that manifests as specific signs and symptoms that may affect a specific tissue/organ or the entire body. It is any abnormal condition of an organism (interruption, cessation, or disorder) that impairs a physiological or psychological function of systems or organs (5,6,7). External factors (e.g., pathogens, environmental stress) or internal dysfunctions can cause diseases (e.g. inherent weaknesses). The disease may not be visible at first, but it may be discovered after further investigation. Disease processes are complex and necessitate knowledge of a wide range of medical disciplines, including physiology, biochemistry, histology, anatomy, microbiology, pathology, and related clinical sciences. Acute or chronic diseases can be communicable or noncommunicable (8). Disease is defined as a maladjustment of the human organism to its environment from an ecological

standpoint. Disease is considered a social phenomenon from a sociological standpoint; it occurs in all societies and is defined and fought against in terms of the cultural forces prevalent in the society (1). The case could be clinically confirmed, laboratory confirmed, epidemiologically linked, probable, or suspected from an epidemiological standpoint (1). Case definitions for each disease should be standardized because they are an important component of epidemiological surveillance for comparative purposes. Other terms that should be distinguished from disease include predisease, disorder, morbidity, co-morbidity, and syndrome.

A **predisease** is a disease that is in its prodromal, subclinical, or premonitory stage, such as pre-cancerous, pre-glaucoma, Prediabetes, or prehypertension. It is an intermediate state that is not disease-like, but the subject is not completely disease-free. (9) Recognizing risk factors for disease can lead to effective preventive measures (10). The three criteria for a predisease are a truly high risk of disease progression, a feasible intervention for risk reduction, and the benefit of intervention outweighing the harm (9).

A **disorder** is a functional disturbance or abnormality characterized by a cluster of related signs and symptoms that occur concurrently and vary over time (11). Mental, physical, genetic, emotional/behavioral, and functional disorders are all examples of medical disorders. In some cases, the term disorder is preferred terminology because it is considered more value-neutral and less stigmatizing than the terms disease and illness (12). Because of the complex interaction of social, biological, and psychological factors in mental conditions, it is commonly used in mental health.

**Morbidity** (from the Latin morbidus, which means "unhealthy or sick") is a state of being symptomatic or unhealthy due to a disease or condition, disability, or poor health caused by any cause. It refers to the consequences and complications of a disease (other than death). In epidemiology, morbidity rate refers to the incidence or prevalence of a disease, as opposed to mortality rate (13,14). Clinical medicine is concerned with each patient individually and independently of the others, whereas community medicine is concerned with a community or a defined population. As a result, clinical practice is concerned with illness in individual patients rather than morbidity in a population (15).

**Table 1.** Differences between disease, illness, **sickness**, and other related terms (2,3,4,7,9,11,13,16,20,23)

Term	Definition	Characteristics	Examples
Disease	Medical condition resulting from pathological process associated with specific signs and symptoms that affect specific organ or whole body.	-Diagnosed by a medical expert -Named by a pathological identification label or marker -Needs treatment (cure)	COVID-19, diabetes mellitus, Sickle cell anemia
Illness	A subjective feeling of unhealthy condition or unhealthy state of body or mind	-Medical conditions that affect mind and body -A perceived notion of un-wellness or self-diagnosis. -Needs to be managed.	-Mental illness -Long term illness. -Childhood illness
Sickness (Being sick)	A state of social dysfunction when person assumes sickness role and he is unable to perform his social role	-Sickness refers to both a non-medical and a medical ailment.	-Motion sickness. -Morning sickness -Serum sickness -Sickness abseentism
Predisease	Prodromal, subclinical or premonitory stage of a disease.	-In-between state not at the level of being classified as disease and the subject is not entirely disease free. -Its identification results in effective preventive measures.	-Pre-cancerous -Preglaucoma -Prediabetes -Prehypertension
Disorder	-Functional disturbance or abnormality with related signs and symptoms that occur together.	Medical disorders can be mental, physical, genetic, emotional/behavioral and functional.	-Mental disorders -Gastro-intestinal disorders
Morbidity	Symptomatic or unhealthy for a disease, disability, or poor health due to any cause.	In epidemiology morbidity rates measure disease burden in the community.	-Incidence rate -Prevalence rate
Co-morbidity (coexisting conditions, multi-morbidity)	Simultaneous presence of two or more physical or mental conditions.	-Results from direct causation, independence, associated risk factors and/or heterogeneity. -Don't always have the same cause, may occur together, and worsen each other.	Obesity, hypertension and osteoarthritis in a diabetic patient
Syndrome (Concurrence)	Used in different ways ranging from clinical experience to coinciding symptoms.	-Range from clinical experience to coinciding symptoms. -Complex association of symptoms and signs which indicate a specific condition -May be due to a single or multiple and vague unexplained causes	-Down syndrome -Nephrotic syndrome -Acquired immunodeficiency syndrome (AIDS) -Post-menopausal syndrome

**Comorbidity** (co-occurring or coexisting conditions, multimorbidity, patient complexity, morbidity burden, or multiple chronic conditions) is the presence of two or more medical (physical or mental) conditions at the same time as a result of direct causation, independence, associated risk factors, and/or heterogeneity. Co-morbid conditions do not always have the same cause, but they can occur concurrently and exacerbate each other (16,17,18,19).

The term **syndrome** (concurrence) is used in a variety of contexts, ranging from clinical experience to coinciding symptoms. It is a distinct complex association of symptoms and signs that indicate a specific condition for which no direct cause is known. It can be caused by a single factor (e.g., Down syndrome, acquired immunodeficiency syndrome) or by a combination of factors that are unknown (e.g., Parkinsonian syndrome, chronic fatigue syndrome, irritable bowel syndrome) (20,21,22).

Illness refers to an unhealthy condition or state of the body or mind (23). It is a subjective feeling or concept of not feeling well based on personal disease experience. It refers to self-reported physical or mental symptoms ranging from minor temporary issues to severe health issues or acute suffering (4,6,7). Medical conditions include all types of illnesses. There are times when illness exists where no disease can be found. A person can also have a disease without being ill (24,25,26). In their assessments and interpretations of symptoms and signs, lay people and medical professionals differ. What the former group considers sick may not be considered diseased by the latter (27). People's social, cultural, and economic circumstances determine their risk of illness and their actions to avoid becoming ill or to treat illness once it occurs (28).

**Sickness** (being ill) can refer to either a non-medical or a medical condition. When a person adopts a sickness role and is unable to fulfill his social role, he is in a state of social and cultural dysfunction (7,29). Sickness is associated with the social role that a person with illness takes or is assigned in society in a variety of fields of life (4).

Being ill is not a medical condition, and the patient is assigned a sick role. The patient has a customary role in relation to health care workers, family members, and society, and is expected to behave in specific ways. A sick person's rights include temporary exemption from social roles, exemption from work, and the right to health and social care. In occupational medicine, sickness absenteeism is a well-known term. A sick person, on the other hand, is

required to seek and adhere to treatment from a technically competent professional (24,29,30).

In conclusion, the terms disease, illness, and sickness are not interchangeable. Sickness is a state of social dysfunction, i.e., the sickness role that the individual assumes when ill. Disease is a physiological/psychological dysfunction. Illness is a subjective state of the person who is aware of not being well. These and other related terms must be defined, with concepts, indicators, and inter-relationships that are satisfactory and acceptable to the epidemiologist, clinician, sociologist, and statistician. This is required in medical and public health settings. To avoid miscommunication, health care workers, medical students, patients, and the general public must understand the different definitions of these terms.

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