

Chronic disease epidemiology definitions

Multifactorial Etiology- Various factors that cause disease.

Latency Period- The time between exposure of a risk factor and the onset of symptoms.

Physical Stresses- Excessive heat/cold, radiation, housing, workplace injuries and climate change.

Risk Factor- Behaviors, environmental exposure, or inherent human characteristic that increases the likelihood of an adverse health outcome.

Risk factors and Environment

Environmental risk factors include: Allergens, asbestos, arsenic, noise, radiation, and smoke.

Physical, Chemical, and Biological environment risk factors include: Worksite exposures, environment exposures, poverty, low educational level, smoking, alcohol use, nutrition/diet, congenital anomalies, and developmental defects.

Inhalation- Breathing radioactive chemicals into the lungs.

Ingestion- Swallowing radioactive material.

Direct- External exposure.

Radiation publication

<https://ncrponline.org/publications/reports/ncrp-report-160-2/>

"NCRP Report 160 | NCRP | Bethesda, MD." Ncrponline.org, ncrponline.org/publications/reports/ncrp-report-160-2/.

Chemicals in the air



The above image shows the lead concentration trend in the U.S.

Office, EPA. "Air Quality Trends Show Clean Air Progress." Epa.gov, 2020, gispub.epa.gov/air/trendsreport/2020/#air_toxics_trends. Accessed 22 Feb. 2025.

Lead and health

Although, the trend of lead exposure has decreased, the severity of lead remains severe. Lead can be ingested through food, soil, water, and dust.

Consequences from lead exposure include damage to organs, osteoporosis, seizures, mental retardation and more.

Lead exposure has been found in lead paint and leaded gasoline. Now are both banned in the U.S. and consequently, blood lead levels lowered.

Definitions

Definition

Biologic agent: a living organism, such as viruses, bacteria, toxins, or parasites, that can cause disease in humans, animals, or plants.

and Cancer relationship

Virus examples: human papillomaviruses (HPV), hepatitis B virus (HBV), hepatitis C virus (HCV), Epstein-Barr virus (EBV), Kaposi's sarcoma-associated herpesvirus (KSHV) (also called human herpesvirus 8), human T-cell lymphotropic virus (HTLV-1), and Merkel cell polyomavirus (MCPyV).

Cancer examples: Burkitt's lymphoma, liver cancer, Adult T-cell leukemia, Kaposi's sarcoma, and cancer of the cervix, anus, penis, vagina, vulva and oropharynx.

Virus and Cancer relationship article

<https://pmc.ncbi.nlm.nih.gov/articles/PMC8336782/>

Schiller, John T., and Douglas R. Lowy. "An Introduction to Virus Infections and Human Cancer." *Viruses and Human Cancer*, vol. 217, 18 Nov. 2020, pp. 1–11, https://doi.org/10.1007/978-3-030-57362-1_1.

Virus and Cancer relationship chart

Behavior and diet with chronic disease.

Behavior and lifestyle choices are responsible for coronary heart disease deaths, cancer deaths, lung cancer, mental disorders, work-related injuries, and diabetes

Lifestyle choices include: smoking, poor nutrition, exercise, sexual activity, and alcohol intake.

Malnutrition: condition caused by insufficient vitamins, minerals, or other nutrients.

Undernutrition: lack of vitamins, minerals and other nutrients.

Overnutrition: Excessive intake of nutrients.

Disability and chronic disease article

<https://www.cdc.gov/chronic-disease/about/index.html>

CDC. "About Chronic Diseases." Centers for Disease Control and Prevention, 4 Oct. 2024, www.cdc.gov/chronic-disease/about/index.html.

Chronic disease prevention

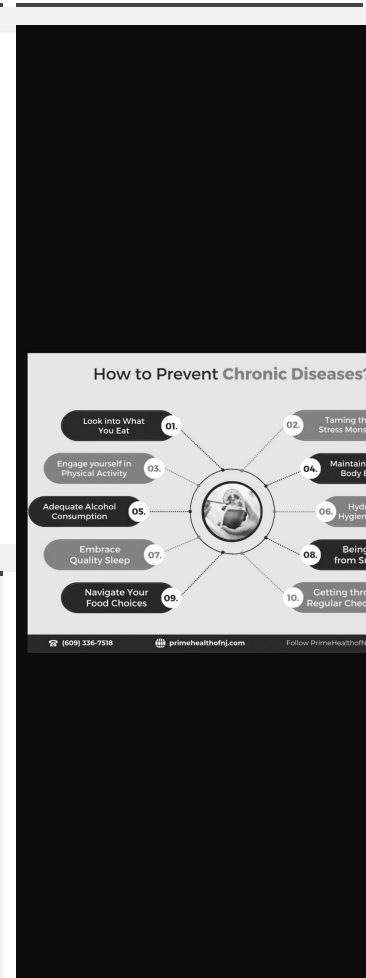
Quit smoking, eat healthy, regular exercise, limit alcohol, regular health screening, know your family history, and get enough sleep.

Chronic disease prevention

Biotransformation: The change of a chemical within the body.

The above image illustrates cancers that have a strong association with certain viruses.

“Table - PMC.” Nih.gov, 2021, [pmc.ncbi.nlm.nih.gov/articles/-PMC8336782/table/T2/](https://pubmed.ncbi.nlm.nih.gov/articles/PMC8336782/table/T2/). Accessed 23 Feb. 2025.



“Prime Health Care.” Prime Health of New Jersey, 28 Aug. 2023, primehealthofnj.com/10-ways-to-prevent-chronic-diseases/.