

1.4: Risk Factors and Levels of Disease Prevention

What is a Risk Factor?

Part of learning how to take charge of your health requires understanding your risk factors for different diseases. Risk factors are things in your life that increase your chances of getting a certain disease. Some risk factors are beyond your control. You may be born with them or exposed to them through no fault of your own.

Some risk factors that you have little or no control over include your:

- Family history of a disease
- Sex/gender — male or female
- Ancestry

Some risk factors you can control include:

- What you eat
- How much physical activity you get
- Whether you use tobacco
- How much alcohol you drink
- Whether you misuse drugs

In fact, it has been estimated that almost 35 percent of all U.S. early deaths in 2000 could have been avoided by changing just three behaviors:

- Stopping smoking
- Eating a healthy diet (for example, eating more fruits and vegetables and less red meat)
- Getting more physical activity

You can have one risk factor for a disease or you can have many. The more risk factors you have, the more likely you are to get the disease. For example, if you eat healthy, exercise on a regular basis, and control your blood pressure, your chances of getting heart disease are less than if you are diabetic, a smoker, and inactive. To lower your risks, take small steps toward engaging in a healthy lifestyle, and you'll see big rewards.

People with a family health history of chronic disease may have the most to gain from making lifestyle changes. You can't change your genes, but you can change behaviors that affect your health, such as smoking, inactivity, and poor eating habits. In many cases, making these changes can reduce your risk of disease even if the disease runs in your family. Another change you can make is to have screening tests, such as mammograms and colorectal cancer screening. These screening tests help detect disease early. People who have a family health history of a chronic disease may benefit the most from screening tests that look for risk factors or early signs of disease. Finding disease early, before symptoms appear, can mean better health in the long run.

Levels of Disease Prevention

Prevention includes a wide range of activities — known as “interventions” — aimed at reducing risks or threats to health. You may have heard researchers and health experts talk about three categories of prevention: primary, secondary and tertiary. What do they mean by these terms?

Primary prevention aims to prevent disease or injury before it ever occurs. This is done by preventing exposures to hazards that cause disease or injury, altering unhealthy or unsafe behaviours that can lead to disease or injury, and increasing resistance to disease or injury should exposure occur. Examples include:

- legislation and enforcement to ban or control the use of hazardous products (e.g. asbestos) or to mandate safe and healthy practices (e.g. use of seatbelts and bike helmets)
- education about healthy and safe habits (e.g. eating well, exercising regularly, not smoking)
- immunization against infectious diseases.

Secondary prevention aims to reduce the impact of a disease or injury that has already occurred. This is done by detecting and treating disease or injury as soon as possible to halt or slow its progress, encouraging personal strategies to prevent reinjury or recurrence, and implementing programs to return people to their original health and function to prevent long-term problems. Examples include:

- regular exams and screening tests to detect disease in its earliest stages (e.g. mammograms to detect breast cancer)
- daily, low-dose aspirins and/or diet and exercise programs to prevent further heart attacks or strokes
- suitably modified work so injured or ill workers can return safely to their jobs.

Tertiary prevention aims to soften the impact of an ongoing illness or injury that has lasting effects. This is done by helping people manage long-term, often-complex health problems and injuries (e.g. chronic diseases, permanent impairments) in order to improve as much as possible their ability to function, their quality of life and their life expectancy. Examples include:

- cardiac or stroke rehabilitation programs, chronic disease management programs (e.g. for diabetes, arthritis, depression, etc.)
- support groups that allow members to share strategies for living well
- vocational rehabilitation programs to retrain workers for new jobs when they have recovered as much as possible.

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