Introduction

Cardiovascular disease (CVD) refers to a group of illnesses that have to do with the heart and the blood vessels that carry blood around the body.

Some of these illnesses include:
- High blood pressure (hypertension)
- Heart disease (known generally as coronary heart disease, which includes heart attacks)
- Stroke

Cardiovascular disease is a very serious health problem in Australia. It kills more people each year than any other health condition and is responsible for huge health-care costs. In 2005, more than one-third of all Australian deaths were caused by CVD. Most of these deaths were caused by coronary heart disease (almost one-in-five of all deaths) and stroke (more than one-in-ten of all female deaths and almost one-in-fourteen of male deaths). Almost one-in-fourteen of the people who go to hospital are there because of CVD. Around one-eighth of the money spent on health is for CVD ($7.8 billion). This makes it the most costly health condition for Australians.

There are certain people in Australia, who are more likely to develop CVD, including:
- Indigenous people
- people with poor environmental standards and those with limited education and low incomes
- males over the age of 45
- males who do not live in cities and big towns

More detailed information about cardiovascular health in Indigenous people can be found at:

http://www.healthinfonet.ecu.edu.au/heart_review

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What is the cardiovascular system?

The cardiovascular system includes the heart and blood vessels that carry blood around the body. (Our body cells need oxygen and nutrients to function properly, and removal of the carbon dioxide that is produced by cells.)

The heart pumps blood around the body through arteries and capillaries (very small blood vessels that take blood to the body cells). Blood is carried back to the heart via the lungs through other blood vessels known as veins.

In this way, the cardiovascular system makes sure that oxygen and nutrients are transported to every part of the body, and carbon dioxide removed via the lungs.

Illnesses that affect the normal structure and function of the parts of the cardiovascular system are called cardiovascular diseases.

Which groups of people are more likely to get cardiovascular disease?

As well as being older than 45 years and being male, the following things can make a person more likely to develop cardiovascular disease:

- having poor social and economic circumstances
- being socially isolated, depressed or lacking social support
- having someone in your family who has had CVD (especially close family such as mother, father, sister or brother)
- not doing enough exercise
- smoking
- not eating good food
- having high blood pressure
- having high blood cholesterol (a type of fat that can cause fatty deposits in the walls of blood vessels and block the blood from passing through)
- being overweight (fat)
- having diabetes (high sugar levels)

Many of these things are more common among Indigenous people than among non-Indigenous people.

What are some of the illnesses of the cardiovascular system?

Cardiovascular diseases are those affecting the heart and/or blood vessels. Except for rheumatic heart disease, which results from damage to valves in the heart, the diseases are caused by a damaged blood supply to the heart, brain, arms or legs.

Some of the illnesses affecting the cardiovascular system include:

- Coronary heart disease
- Heart failure
- Rheumatic heart disease
- Stroke
- Peripheral vascular disease (diseases of blood vessels outside the heart and brain)

Coronary heart disease

Coronary heart disease (CHD) is an illness of the arteries (blood vessels) that supply oxygen-rich blood to the heart muscle. If the oxygen supply to the heart muscles is interfered with, the heart cannot pump blood around the body properly.

CHD is often the result of a build-up of hard, fatty substances (usually cholesterol) in the arteries. Over time, this can block the blood from passing through to the heart muscles. Chest pain could be the result of a blockage of one or more of the heart’s arteries and needs urgent medical action, at a hospital if possible.

Coronary heart disease is usually treated with medicine or surgery (such as bypass surgery - where new routes are created from existing veins or arteries to allow blood to travel to the heart muscle).

Hypertensive disease (high blood pressure)

High blood pressure is an important illness that can cause damage to various parts of the body. A health worker can measure your blood pressure by using a device that wraps around the arm (known as a sphygmomanometer). Normal blood pressure is around 120 mm mercury as a result of an actual heart beat, and around 80 mm mercury between beats (usually expressed as 120/80). A person is said to have high blood pressure if they have a reading of 140/90 or more. Blood pressure may be high for many reasons (for example, if a person has had a fright or is in a stressful situation). If it is high all the time, a person is said to have hypertension.
Hypertension can be caused by:
- not doing enough exercise
- eating lots of salt
- being overweight (fat)
- feeling stressed

Some signs that a person has hypertension (although there may be no symptoms at all) are:
- dizziness
- hot flashes
- headache
- feeling very tired
- nosebleeds
- feeling nervous

Over time, high blood pressure can cause changes in the eye (retinopathy), thickening of the heart muscle and arteries (atherosclerosis), kidney failure and brain damage (stroke). High blood pressure is usually treated with tablets, regular exercise, losing weight, eating less salt and eating healthier foods.

Stroke

A stroke occurs when blood flow to a part of the brain is reduced or stops. This can be caused by a blocked or burst blood vessel. A part of the brain may die and no longer work properly. Depending on the area of the brain where this happens, there may be some sort of long-lasting disability. This means a person who has had a stroke may need someone to help care for them.

There are two types of stroke:
- Ischaemic stroke – when a blood clot blocks the arteries to the brain
- Cerebral haemorrhage – when a blood vessel is damaged and bleeding occurs into the brain

The results of a stroke depend on the area of the brain and the amount of damage.

Some effects of a stroke include:
- weakness
- numbness
- tingling
- unable to move or feel arm or leg
- problems with talking
- weak face muscles

A health worker can tell if someone has had a stroke by examining them, doing an x-ray or testing some of their blood. Treatment of stroke includes taking tablets, doing special exercises (to help the areas that have been affected), or maybe an operation.

Rheumatic heart disease

Conditions resulting in heart damage due to rheumatic fever are called rheumatic heart disease (RHD). RHD involves damage to the heart valves (these help blood to flow in the right direction) and heart muscle.

Rheumatic fever is a sickness that occurs due to bacteria (germs) infecting the throat. If the infection does not get treated, it can sometimes cause the joints (such as wrist, elbow, knees and ankles) to become inflamed (red, sore, tender) as well as damaging the heart valves. Rheumatic fever affects mainly children. Signs that someone has rheumatic fever include fever, pain in the joints, nausea (feeling like you are going to vomit), and having stomach cramps. It can also cause long-lasting effects in the skin, joints, heart and brain.

Some things that can make you more likely to get rheumatic heart disease include:
- Poor living conditions
- Low levels of hygiene (not washing and keeping clean)
- Malnutrition (not eating enough healthy foods)

Other forms of heart disease

Illnesses that affect the heart muscle and the way the heart works include:
- Pericarditis – inflammation (swelling, redness and pain) of the lining around the heart
- Endocarditis – inflammation of the inner lining of the heart and also the heart valves
- Myocarditis – inflammation of the heart muscle
- Cardiac arrest – when the heart fails to contract properly, meaning it cannot pump blood around the body
- Cardiac arrhythmia – the loss of rhythm in heart contractions
- Heart failure – when the heart cannot pump blood as well as it should. Not enough blood gets to places such as the brain.

These illnesses can be caused by an infection (germs), or an injury. They usually cause pain in the chest, breathlessness (a feeling of not being able to get enough air), feeling very tired, or a loss of consciousness (‘blacking out’).
The Australian Indigenous HealthInfoNet is an innovative Internet resource that contributes to ‘closing the gap’ in health between Indigenous and other Australians by informing practice and policy in Indigenous health.

Two concepts underpin the HealthInfoNet’s work. The first is evidence-informed decision-making, whereby practitioners and policy-makers have access to the best available research and other information. This concept is linked with that of translational research (TR), which involves making research and other information available in a form that has immediate, practical utility. Implementation of these two concepts involves synthesis, exchange and ethical application of knowledge through ongoing interaction with key stakeholders.

The HealthInfoNet’s work in TR at a population-health level, in which it is at the forefront internationally, addresses the knowledge needs of a wide range of potential users, including policy-makers, health service providers, program managers, clinicians, Indigenous health workers, and other health professionals. The HealthInfoNet also provides easy-to-read and summarised material for students and the general community.

The HealthInfoNet encourages and supports information-sharing among practitioners, policy-makers and others working to improve Indigenous health – its free on line yarning places enable people across the country to share information, knowledge and experience. The HealthInfoNet is funded mainly by the Australian Department of Health and Ageing. Its award-winning web resource (www.healthinfonet.ecu.edu.au) is free and available to everyone.