

Cardiovascular disease begins at an early age

The most common cause of death and disability in Australia is cardiovascular disease (CVD). In the past, this condition was largely limited to members of the robust middle and professional classes - in other words, well fed, overweight, occupationally sedentary males. While doctors blamed psychological stress until about the 1950s, it then became apparent that blame could not be shifted from a life of 'gluttony and physical indolence'.

In the past, many women died young - few from CVD, many from childbirth. Children, both boys and girls, often died in childhood from infectious diseases. In industrialised societies, interventions, vaccination and antibiotics largely put an end to those early deaths. Men continued to have heart attacks and strokes (from their CVD), with most occurring during their 50s or 60s. In women CVD appears later. However, with increasing obesity in the population, CVD and diabetes might occur earlier in women in future decades.

While CVD does not usually manifest itself until middle age, the early development of the underlying CVD is not delayed until middle-age. It starts in childhood. It progresses through adulthood and is exposed by the occurrence of dramatically serious complicating illnesses (heart attacks, strokes and the like) in middle or later age.

One interesting study about American soldiers, killed in action in Korea, showed that two thirds of them already had early evidence of CVD (fatty cholesterol containing plaques in their arteries). Their average age was 22 years. There were no plaques found in Koreans killed in action. This was thought to be a unique observation until a search was made for similar evidence elsewhere and it was found that a very famous German pathologist did a similar study on German soldiers killed in action in World War I. In his paper published in 1915, he found that two thirds of the soldiers had early CVD. Their average age was 26 years. They would have

been killed in action in 1914 and would have been the world's best nourished body of enlisted troops. 'An army marches on its stomach'.

Why don't all people get CVD? The answer is apparently in our genes. We inherit from our parents variable degrees of susceptibility response to risk factors. Some can tolerate a lifetime exposure to saturated fat without developing high cholesterol. Some can remain with a low blood pressure despite having a high salt intake and apparently unhealthy overweight. Some smokers can get through life without adverse effects, although this applies to only a small proportion of smokers because cigarette smoking leads to cancers as well as to lung disease, heart attacks, strokes, disabilities and deaths from other causes.

Some people can remain overweight, even obese, without developing type 2 diabetes, high blood pressure or high cholesterol, despite being physically inactive throughout life. The majority of people with elevated risk factors do develop CVD, however, and they can be identified.

People who live together tend to have similar behaviours and thus tend to have similar risk of CVD. Spouses of patients tend to be similar in behaviours and socioeconomic status. Just look around in the supermarket. One fat adult is commonly accompanied by another fat adult or by fat children. Spouses tend to have similar risk factors to those of patients. Brothers and sisters of patients have risk factors similar to or worse than patients, partly reflecting genetic similarities. The health behaviours of a patient's friends are also at some increased risk because of similar habits. One cannot change the population's genes but the population can change its behaviours. The future health of each individual lies within the control of that individual at least in part. Knowledge and understanding come first. A decision to change comes next. Many can implement change and some can maintain changes for decades into old age. Good luck.

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