

Women and risk of CVD - the role of diet and lifestyle

'Not just a man's disease'

Coronary heart disease (CHD) is the leading cause of death in women worldwide.^{1,2} Despite this, it is often perceived to be a man's disease. Although the biology of the disease is the same, some sex-specific risk factors and conditions alter the course of the disease. Women experience a number of hormonal changes throughout their lives that impact lipoprotein metabolism and therefore risk of CHD. In addition, the increasing prevalence of diabetes and obesity leads to women getting dyslipidaemia earlier in life, especially in middle income countries.³ A misperception that a heart attack is a man's disease, and unconscious biases in the delivery of healthcare, may lead to delayed treatment and poorer survival chances for women who suffer a heart attack.⁴ Understanding and addressing any sex-specific differences in the area of dyslipidaemia and CHD is an important opportunity to improve healthcare.

CHD risk considerations in women

Women have a higher risk of heart attack associated with hypertension, dyslipidaemia, and diabetes than men.⁵ Along with traditional risk factors, specific CHD risk factors in women include:

- high blood pressure or diabetes during pregnancy or menopause;⁶
- history of pre-eclampsia;⁷
- adverse pregnancy outcomes (gestational diabetes, hypertensive disorders, low birth weight, high birth weight and pre-term delivery);^{5,8} and
- early menopause (age < 40).^{5,7}

Menopause is well associated with a shift towards a less favourable blood lipid profile, with higher LDL and total cholesterol, and lower HDL cholesterol associated with post-menopausal women.^{5,9} With menopause, women not only experience a worsening of their lipid profile, with transition to higher and more atherogenic dyslipidaemia but also tend to experience weight gain and increased blood pressure.⁵ Increased prevalence of the metabolic syndrome occurs during the menopause transition, accompanied by increased subclinical atherosclerosis, weight gain, and redistribution of fat as abdominal obesity occurs in conjunction with increased visceral adipose tissue.⁸ Certain other risk factors increase around the time of menopause including a decline in the cardio-protective hormone oestrogen, poor dietary habits and lifestyle factors such as reduced physical activity.^{5,10} Early menopause (age < 40) is a well-established CHD risk-enhancing factor and associated with mortality.^{5,10}

Approaches to prevention of CHD in women – diet and lifestyle factors should be considered

Despite some improvement in recent years, underestimation of risk and undertreatment in women is still an issue. There are differences in the clinical and public health recommendations for management of known risk factors in women versus men (e.g. diabetes, hypertension, obesity, physical inactivity, smoking, dyslipidaemia).^{5,8} Consideration of sex-specific risk factors such as menopause, pregnancy history and adverse pregnancy outcomes is important when evaluating risk of CVD and there is a need for these to be incorporated into formal risk assessment calculators.⁵

There is a role for tailored CHD risk factor reduction in women including diet and lifestyle modifications such as:

- reducing weight if obese/overweight
- reducing alcohol intake,
- stopping smoking,

- physical activity,
- reducing sedentary time,
- choice of mono-saturated and polyunsaturated fats to replace saturated fats,
- increasing fruit and vegetable intake,
- sufficient dietary fibre intake and
- inclusion of cholesterol-lowering functional foods e.g. plant stanols/sterols.

Women who are exhibiting risk factors for CHD can benefit from adherence to lifestyle guidelines involving diet, exercise, and abstinence from smoking in order to improve their overall risk. For more information on dietary management of dyslipidemias, visit <https://www.dietattheheart.com/>.

References:

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