Traditional risk factors with greater impact in women:

- Smoking
- Diabetes
- High blood pressure
- Family history of heart disease

Hormones:

- Levels vary throughout life (puberty, pregnancy, menopause, hormone replacement therapy)

Pregnancy-related factors and conditions:

- Preeclampsia
- Gestational diabetes
- Hypertension
- Peripartum cardiomyopathy

Psychosocial factors:

- Higher socio-economic disadvantage across all ethnic and age groups
- Tendency to prioritize care of family ahead of self-care
- Feminine gender role poses greater risk of second heart attack
- Polycystic ovary syndrome (PCOS)
- Physicians often don't discuss prevention with female patients
- Risk underestimated in older women
- Evaluation of risk using standard Framingham model less accurate

Symptoms of heart attack are often discounted or ignored by women and health care providers.

Treatments differ for men and women:

- Women have less likely to experience chest pain, but the majority still do
- Younger women less likely to experience chest pain
- Angina is more likely the initial sign of coronary artery disease in women (vs heart attack in men)
- Treatment is often delayed and women are often under-treated
- Research has primarily focused on men
- More likely to have procedure-related bleeding events
- More likely to experience cardiac damage (cardiotoxicity) due to certain cancer treatments
- Less likely to stay on prescribed medications
- Women respond differently to many drugs, such as ACE inhibitors, statins and aspirin
- Aspirin reduces the risk of stroke in women, reduces the risk of heart attack in men
- Participation in cardiac rehabilitation has a greater impact on survival in women, but women are less likely to access rehab

Outcomes:

- More likely to die in hospital
- Younger women are have higher mortality
- Women and feminine gender less likely to return to work
- Atrial fibrillation more likely to result in stroke, heart attack, heart failure and death in women, yet women are less likely to receive anti-clotting therapy

What We Know about Women and Heart Disease

As identified by speakers at the 2016 Canadian Women’s Heart Health Summit

- Women develop heart disease and have heart attacks later in life
- Women aged 20 to 55: the only group in which heart attack rates are increasing
- Often have diffuse atherosclerosis rather than blocked coronary arteries
- Have smaller arteries and are more likely to experience endothelial and microvascular dysfunction
- Often have heart attacks with no coronary obstruction: MINOCA (myocardial infarction and non-obstructive coronary arteries)
- Heart failure with preserved ejection fraction (HFpEF) much more common in women
- Women’s hearts respond (remodel) differently to the physical and functional changes caused by heart disease
- Much more likely to experience spontaneous coronary artery dissection (SCAD)
- More likely to develop heart valve disease
- More likely to suffer stroke
- Thoracic aortic aneurysms grow faster in women putting them at greater risk of dissection and death
- Women have more co-morbidities

Conditions

<table>
<thead>
<tr>
<th>Traditional Risk Factors</th>
<th>Hormones</th>
<th>Pregnancy-Related Factors</th>
<th>Psychosocial Factors</th>
</tr>
</thead>
</table>

Symptoms

- Women develop heart disease of less severity
- Women aged 20 to 55: the only group in which heart attack rates are increasing

Risk factors

- Smokers
- Diabetics
- Hypertensives
- Family history of heart disease

Hormones

- Levels vary throughout life (puberty, pregnancy, menopause, hormone replacement therapy)

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