Do women with acute coronary syndrome have a similar cardiovascular risk factor profile compared to their male counterparts?

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Cardiovascular Disease in Women

- ✓Leading cause of death globally- 1/3 female death
- ✓ 17.5 % Q CVD death annually in Australia
- ✓Global leading health issue in females
- ✓2nd disease burden after depression
- ✓Poor knowledge of CVD risk factors

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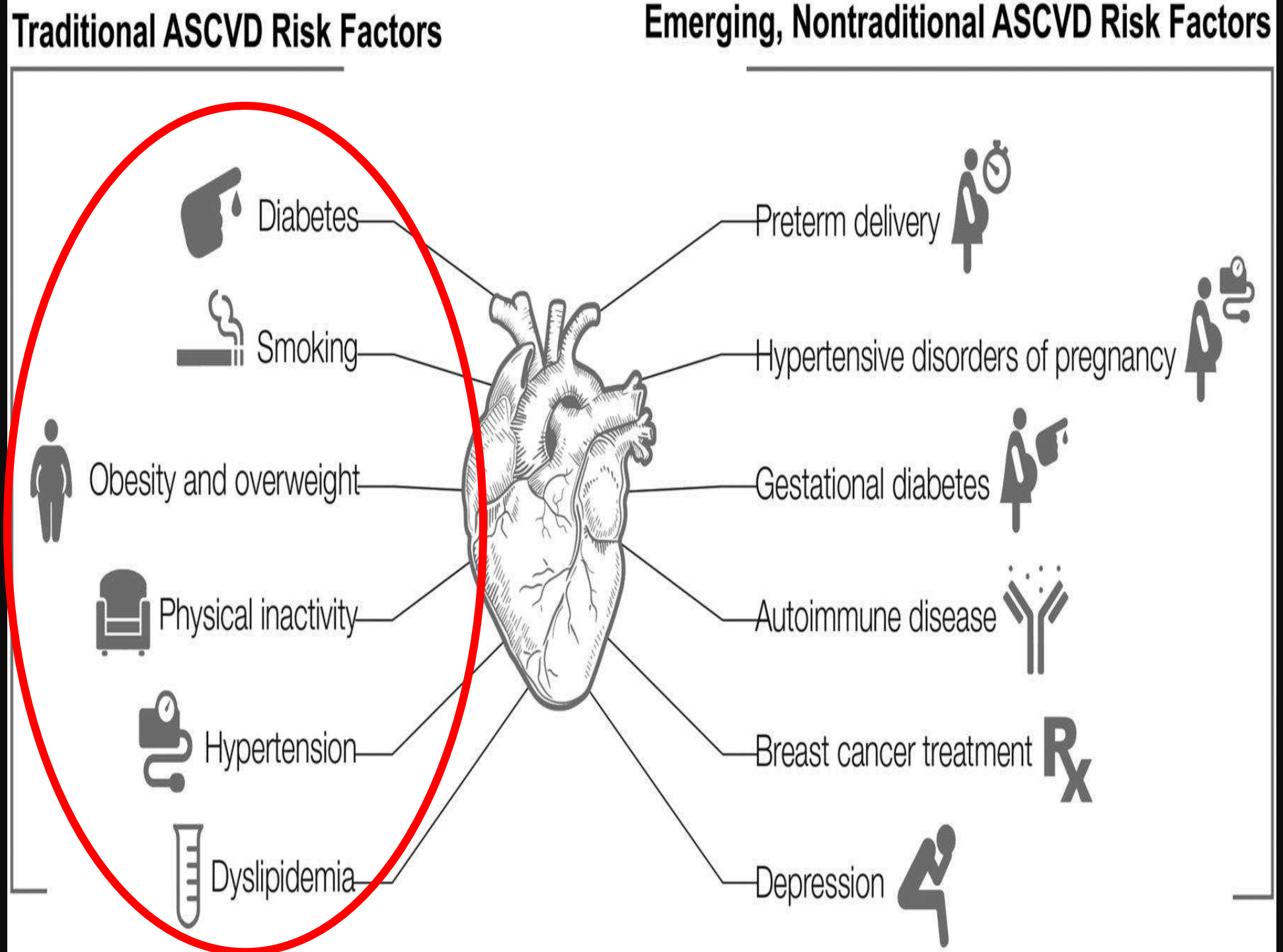
Traditional ASCVD Risk Factors
Emerging, Nontraditional ASCVD Risk Factors
Diabetes
Smoking
Obesity and overweight
Physical inactivity
Hypertension
Dyslipidemia
Preterm delivery
Hypertensive disorders of pregnancy
Gestational diabetes
Autoimmune disease
Breast cancer treatment
Rx
Depression

Cardiovascular Disease Risk Factors

- ✓ **Diabetes Mellitus**- Potent risk factor for CVD
  3-fold risk of fatal CVD event

- ✓ **Hypertension**- Modifiable risk factor
  Poor BP control ↑ risk of CVD
  Current stats- Only 23% ♀ have controlled BP (140/90 mmHg)

- ✓ **Dyslipideamia**- Highest population-adjusted risk factors
  Preventable (lifestyle modification, diet, exercise)
  Elderly females

- ✓ **Smoking**- 25% ↑ risk for CVD
  Smoking plus oral contraceptives- ↑ risk of CVD
  Young females

- ✓ **Obesity**- BMI ≥ 29 kg/m²
  ↑ CVD risk by 64% in ♀

- ✓ **Family history**- Genetic factors
  Currently under investigation

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INTERHEART Study

Smoking
Lipids
Hypertension
Diabetes
Obesity

Diet
Physical activity
Alcohol consumption
Psychological factors

90% ↑ risk of ACS in females

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Acute Coronary Syndrome in Females

- ✓ Evidence- WISE Study/ INTERHEART Study/ Euro Heart Survey
- ✓ Gender differences in cardiovascular and coronary artery system- microvascular dysfunction
- ✓ Four hours delay in hospital presentation in 34 % of females
- ✓ Higher prevalence of angina
- ✓ Fat distribution/ hormonal effect
- ✓ Poor prognosis/ gender variation in recovery/ ↑ mortality rate
- ✓ Non-significant obstructive coronary artery disease at angiography
- ✓ Gender differences in drug metabolization

Study Components

Aim - To investigate the profile of CVD risk factors in females and males

Method - Retrospective observational

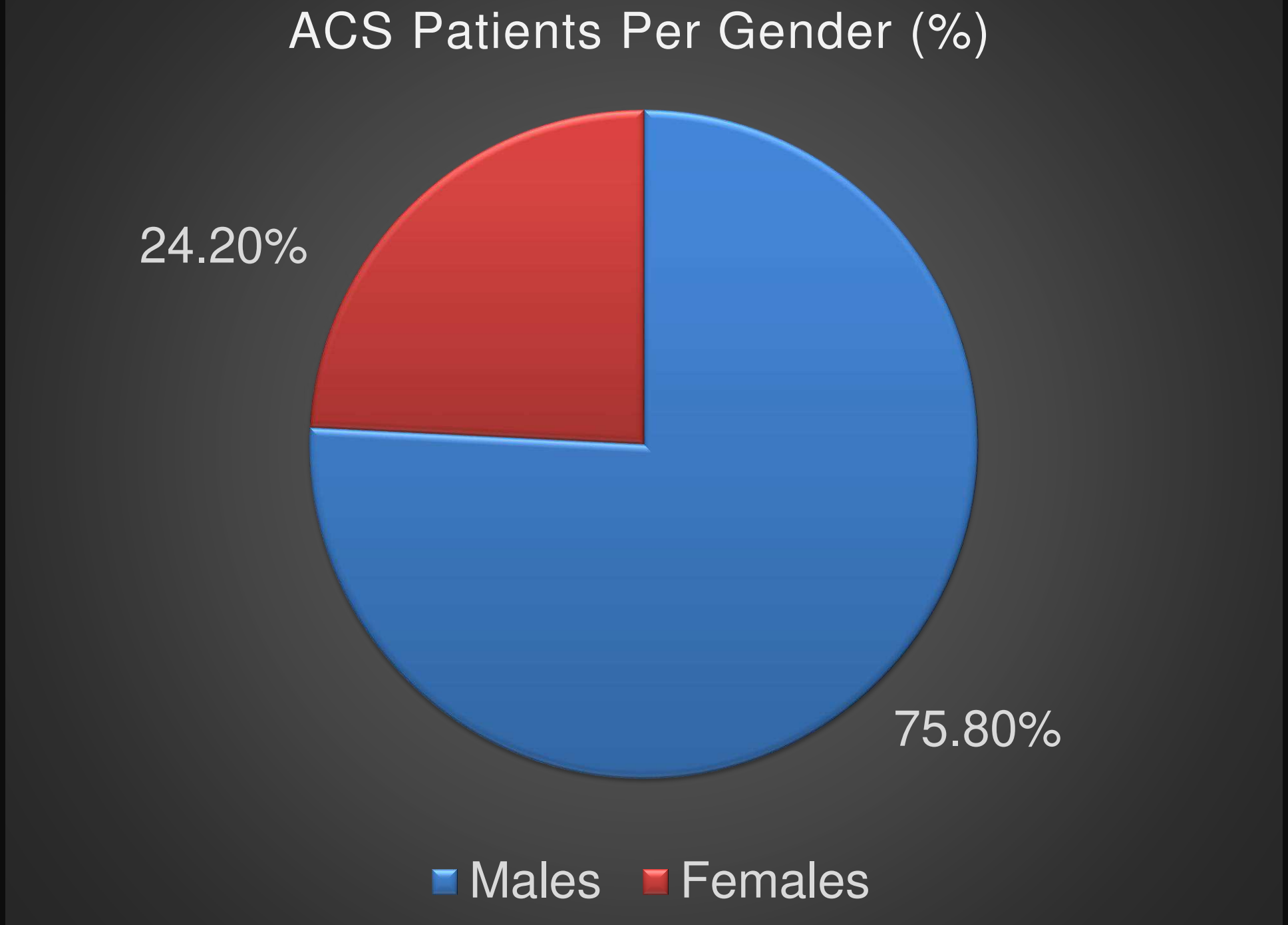
Setting - Cardiology Department, Canberra hospital

Participants - 4776 acute coronary syndrome cases

Timeframe - January 2008 till June 2015

Data source - ACT PCI database

Ethics – TCH Ethics Committee


ACS Patients Per Gender (%)
24.20%
75.80%
Males
Females

Age (years) mean ± SD *
Females 68.2 ± 12.8
Males 62.6 ± 11.7

BMI kg/m² ± SD *
Females 29.1 ± 6.6
Males 28.5 ± 4.9

* p ≤ 0.05

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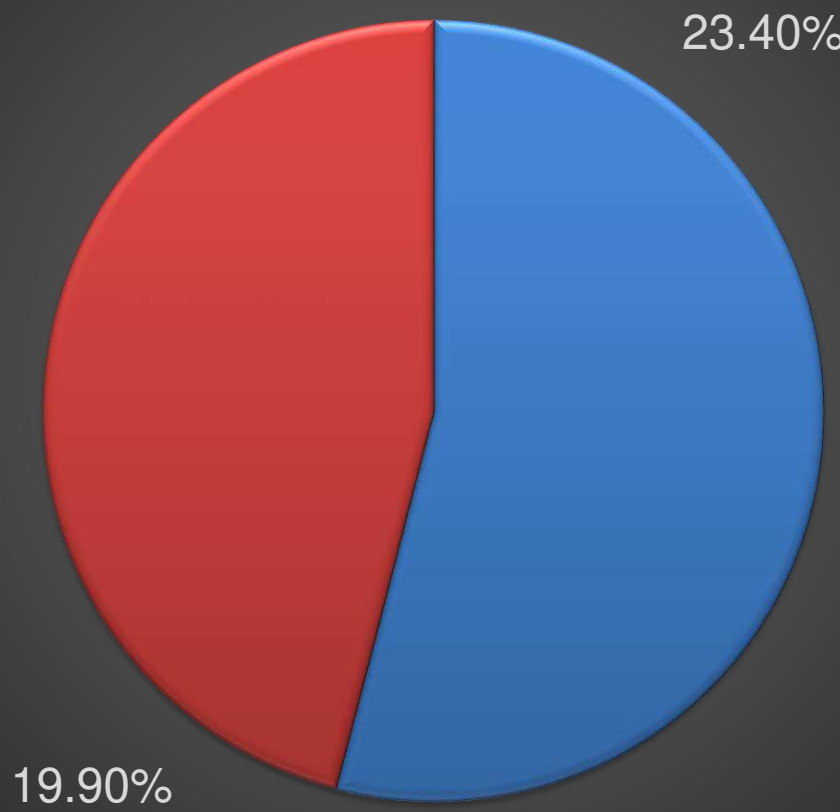
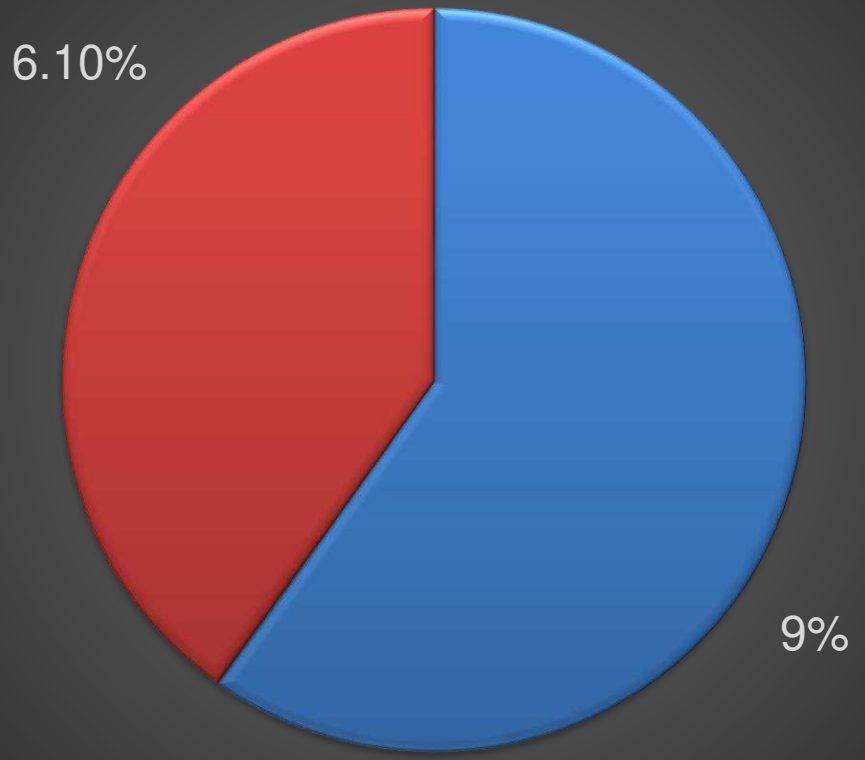
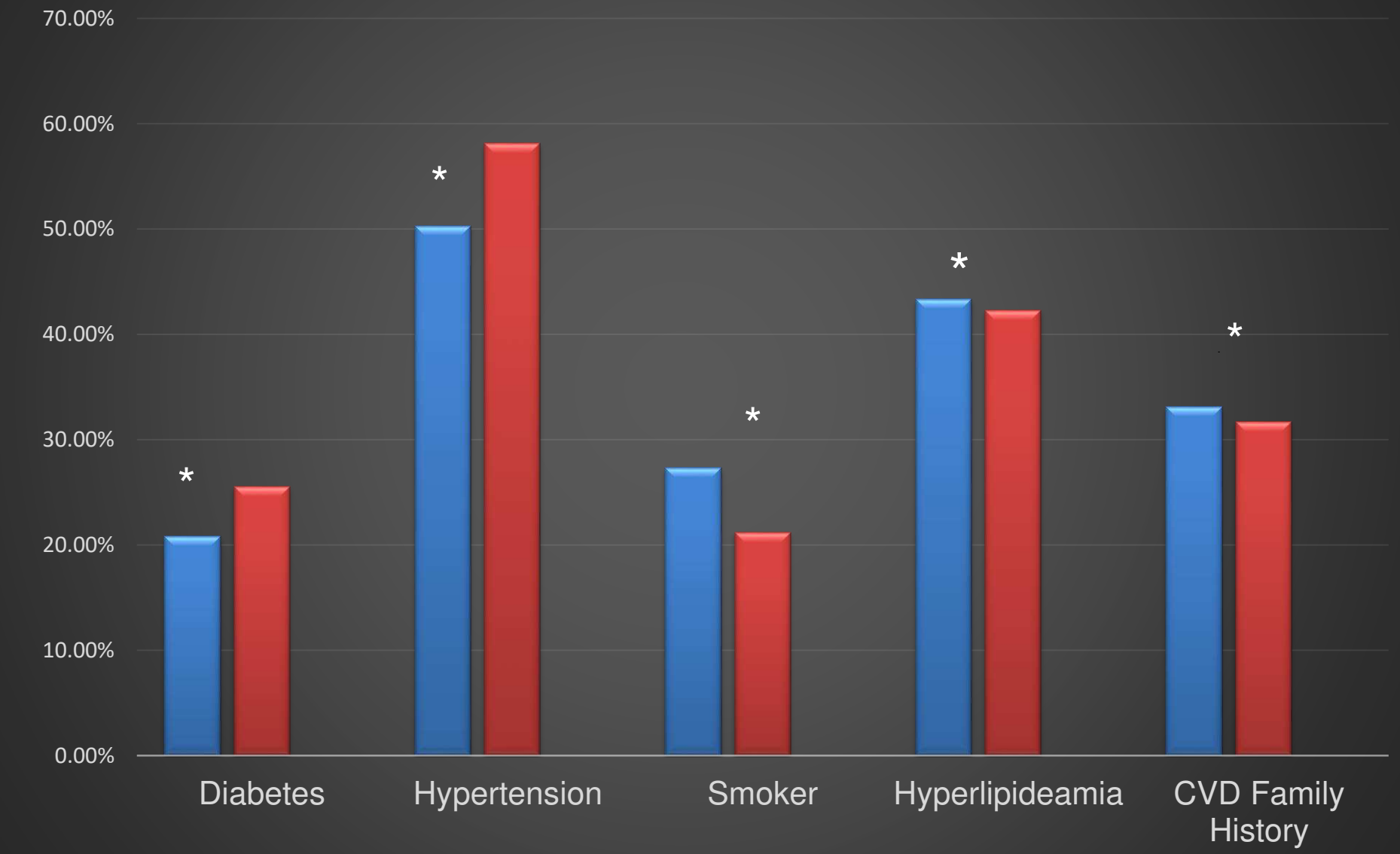
Females vs Males Previous PCI



Females vs Male Previous CABG



Females vs Males CVD Risk Factors (%)



P ≤ 0.005

Future Direction

- ✓ Better understanding of cardiovascular system and mechanism in females- reduce future atherosclerotic cardiovascular disease
- ✓ Early identification of intermittent and high risk females
- ✓ Further increase in awareness of CVD as the primary cause of death in females
- ✓ Facilitate quality improvement in female-specific care
- ✓ Gender specific biomarkers, novel CVD risk factors, risk stratification tools
- ✓ Increase enrollment in secondary prevention programs
- ✓ CVD prevention and aggressive treatment

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Questions…

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