Men are from Mars and Women are from Venus – But both sexes develop heart disease on EARTH!

Robert Zecchin
Robyn Gallagher
Workshop and Take-Home Questions

1. **Is your CR program adapted/tailored for women?** i.e. does it account for referral, outcomes, psychosocial aspects, depression and anxiety screening, empowerment/motivational interviewing?

2. **What are your local social support networks for women?** – consider web-based sources of information, as well as non-traditional support e.g. faith-based groups, indigenous storytelling etc.

3. **Men and women do differ in regards to heart disease but how?**

4. **What are the similarities between women and men in regards to heart disease?**
Cardiovascular disease is the #1 killer of women globally, yet many women underestimate their risk of heart disease and the associated factors. The reasons are multi-factorial and include issues related to health literacy, socio-economic circumstances, educational level, culture and the influence of the media.

The aim of this workshop is to highlight these issues through one woman’s cardiac journey as well as a literature review.
Cardiac Rehabilitation

- One woman’s story, but all too common
Her Story (Ms SK)

- 43 year old: defacto relationship and 4 children
  Own business – works from home
- Several weeks of right arm ache – put it down to bad shoulder
- Woke with crushing chest pain
- Went to GP: diaphoretic, pins and needles left arm, dizzy;
- GP: ECG, Aspirin, S/L anginine, ambulance
- WMH: Acute Anterior ST Elevation Myocardial Infarction
- Emergency PCI for 90% proximal LAD lesion with insertion of DES
- New cardiac medications on discharge: Aspirin, Prasugrel, Metropolol, Perindopril, Nitrospray, Lipidil
Known Risk Factors

- Current smoker: 30 cigarettes/day for 30 years – tried medications, cold turkey,
- Positive family history of premature heart disease: AMI Father 58 yrs + Grandfather 40’s,
- Cholesterol level unknown,
- Sedentary lifestyle: past gym user,
- Normal BMI, no diabetes or hypertension,
- History: asthma, kypho-scoliosis corrective surgery.
Cardiac Rehabilitation

Commenced CR 10 days postdischarge:

- Exercise Stress Test attended, Individualised exercise program, education and counselling
- Self management strategies discussed
- Attended 6 exercise sessions
- Attended diet and stress management sessions
- 6 week reassessment: QOL, functional capacity, risk factors
- Attended post program, assessments at 6 and 12 months
### Outcomes

<table>
<thead>
<tr>
<th></th>
<th>Pre</th>
<th>Post</th>
<th>6 mths</th>
<th>12 mths</th>
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<tbody>
<tr>
<td>Functional Capacity (METs)</td>
<td>8</td>
<td>11</td>
<td>11</td>
<td>10</td>
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<tr>
<td>CO (ppm)</td>
<td>2</td>
<td>2</td>
<td>12</td>
<td>13</td>
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<tr>
<td>Weight (kg)</td>
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<td>Waist (cm)</td>
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<td>Body Fat (%)</td>
<td>35.2</td>
<td>34.3</td>
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- Family stressors – lapsed 10 cigarettes in 2 weeks
- 1 cigarette/day
## Outcomes

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<tr>
<th>Date</th>
<th>11/09</th>
<th>10/11</th>
<th>1/13 PRE-CR</th>
<th>2/13 POST-CR</th>
<th>3/14 F/Up</th>
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<tr>
<td>Total CHOL</td>
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<td>10.7</td>
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<td>TG</td>
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<td>HDL</td>
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<td>1.49</td>
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<td>Not indicated</td>
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<td>N/A</td>
<td>9.2</td>
<td>2.41</td>
<td>N/A</td>
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</tbody>
</table>

**Lipids (NHF 2012) Goals:**
- LDL < 1.8 mmol/L
- HDL > 1.0 mmol/L
- TG < 2.0 mmol/L
- Non HDL-C < 2.5 mmol/L

Diet Session Attended Lipidil Added
Most Serious Health Threat: Women’s Perceptions vs Reality

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<th>Perceived</th>
<th>Actual</th>
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<td>Breast cancer</td>
<td>Heart Disease</td>
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<tr>
<td>46%</td>
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<td>Cancer (unspecified)</td>
<td>Breast cancer</td>
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<td>16%</td>
<td>4%</td>
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<tr>
<td>AIDS</td>
<td>Cancer (unspecified)</td>
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<tr>
<td>4%</td>
<td>3%</td>
</tr>
<tr>
<td>Heart disease</td>
<td>Uterine/Ovarian Cancer</td>
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<tr>
<td>4%</td>
<td>2%</td>
</tr>
<tr>
<td>Uterine/Ovarian cancer</td>
<td>AIDS</td>
</tr>
<tr>
<td>3%</td>
<td>&lt;1%</td>
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Background: The purpose of this study was to evaluate trends in awareness of cardiovascular disease (CVD) risk among women between 1997 and 2012 by racial/ethnic and age groups, as well as knowledge of CVD symptoms and preventive behaviours/barriers.

Methods and Results: A study of awareness of CVD was conducted by the American Heart Association in 2012 among US women >25 years of age identified through random-digit dialling (n=1205) and Harris Poll Online (n=1227), similar to prior American Heart Association national surveys. Standardized questions on awareness were given to all women; additional questions about preventive behaviours/barriers were given online. Data were weighted, and results were compared with triennial surveys since 1997. Between 1997 and 2012, the rate of awareness of CVD as the leading cause of death nearly doubled (56% versus 30%; P<0.001). The rate of awareness among black and Hispanic women in 2012 (36% and 34%, respectively) was similar to that of white women in 1997 (33%). In 1997, women were more likely to cite cancer than CVD as the leading killer (35% versus 30%), but in 2012, the trend reversed (24% versus 56%). 

Awareness of atypical symptoms of CVD has improved since 1997 but remains low. The most common reasons why women took preventive action were to improve health and to feel better, not to live longer.

Conclusions: Awareness of CVD among women has improved in the past 15 years, but a significant racial/ethnic minority gap persists. Continued effort is needed to reach at-risk populations. These data should inform public health campaigns to focus on evidenced-based strategies to prevent CVD and to help target messages that resonate and motivate women to take action.
Trends in Perceived Leading Cause of Death Among Women

- Heart disease/heart attack
- Cancer (general)
- Breast Cancer
- Other
- Don't know/no answer


Factors affecting accurate risk perception

**Demographic**

**Age:** older *more accurate*  
(Green et al 2003, Meischke et al 2000)

**Gender:** female *less accurate*  

**CALD groups:** *less accurate, probably due to knowledge deficit*  
(Mosca et al 2004, Haomiao et al., 2004)

**Education:** lower education *less accurate*  
(Moran 1989, Facione 2002)

**Cognitive**

**Misconceived beliefs**
Coronary artery disease (CAD) is neglected in women, despite causing as many deaths in women as men.

More women than men die of CAD, and more women have died of CAD than of cancer, including breast cancer, chronic lower respiratory disease, Alzheimer's disease, and accidents combined.

Overall, rates of CAD have declined by 30% in the last decade, but increased in women younger than 55.

Despite this, women are still less likely to receive preventive recommendations, such as lipid-lowering therapy, aspirin, and lifestyle advice, than men at a similar risk level.

In a 2004 survey fewer than one in five physicians recognized that more women than men die from CAD.

Cardiac rehabilitation after heart attacks is underused, particularly in women, as demonstrated in numerous national studies.

Women are 55% less likely to participate in cardiac rehabilitation than men.
Objective: To examine the relationship between sex and symptom presentation and between sex, symptom presentation, and hospital mortality, before and after accounting for age in patients hospitalized with MI. Design, Setting, and Patients Observational study from the National Registry of Myocardial Infarction, 1994-2006, of 1,143,513 registry patients (481,581 women and 661,932 men). Results: The proportion of MI patients who presented without chest pain was significantly higher for women than men (42.0% [95% CI, 41.8%-42.1%] vs 30.7% [95% CI, 30.6%-30.8%]; P<001). There was a significant interaction between age and sex with chest pain at presentation, with a larger sex difference in younger than older patients, which became attenuated with advancing age. Multivariable adjusted age-specific odds ratios (ORs) for lack of chest pain for women (referent, men) were younger than 45 years, 1.30 (95% CI, 1.23-1.36); 45 to 54 years, 1.26 (95% CI, 1.22-1.30); 55 to 64 years, 1.24 (95% CI, 1.21-1.27); 65 to 74 years, 1.13 (95% CI, 1.11-1.15); and 75 years or older, 1.03 (95% CI, 1.02-1.04). Two-way interaction (sex and age) on MI presentation without chest pain was significant (P<.001). The in-hospital mortality rate was 14.6% for women and 10.3% for men. Younger women presenting without chest pain had greater hospital mortality than younger men without chest pain, and these sex differences decreased or even reversed with advancing age, with adjusted OR for age younger than 45 years, 1.18 (95% CI, 1.00-1.39); 45 to 54 years, 1.13 (95% CI, 1.02-1.26); 55 to 64 years, 1.02 (95% CI, 0.96-1.09); 65 to 74 years, 0.91 (95% CI, 0.88-0.95); and 75 years or older, 0.81 (95% CI, 0.79-0.83). The 3-way interaction (sex, age, and chest pain) on mortality was significant (P<001). Conclusion: In this registry of patients hospitalized with MI, women were more likely than men to present without chest pain and had higher mortality than men within the same age group, but sex differences in clinical presentation without chest pain and in mortality were attenuated with increasing age.
Gender-specific ambulance priority and delays to primary percutaneous coronary intervention: A consequence of the patients' presentation or the management at the emergency medical communications center?


BACKGROUND: Women with ST-elevation myocardial infarction (STEMI) tend to have longer treatment delays than men. This may partly be due to women delaying calling for help, difficulties for the emergency medical communication (EMC) service in interpreting a different constellation of presenting symptoms than men, or gender-specific ambulance delays due to differences in the management by the EMC service.

RESULTS: We studied the EMC audio logs and medical records of 244 consecutive STEMI patients (65 women and 179 men) who contacted the EMC center at a single hospital directly. Patient demographics, clinical findings, and outcome after primary percutaneous coronary intervention were similar for the 2 genders. More women than men reported chest discomfort and discomfort in other areas of the upper body as debuting symptoms. The combined effects of longer patients delay and system delay led to longer total ischemic time in women (total ischemic time: median [interquartile range] 142 [180] vs 135 [83] minutes, women vs men, P = .024). Despite similar presentation, women had lower priority for emergent ambulance service (78.7% and 89.4% of women vs men, P = .035). Lower priority for ambulance service was associated with longer total ischemic time.

CONCLUSION: Despite similar presentation and clinical findings, women with STEMI were given significantly lower priority for emergent ambulance service than men.
Sex Differences in Age-Related Cardiovascular Mortality
Tomi S. Mikkola, Mika Gissler, Marko Merikukka, Pauliina Tuomikoski, Olavi Ylikorkala.
PLOS ONE May 2013 | Volume 8 | Issue 5

Introduction: Sex-related physiological differences result in different expressions of diseases for men and women. Data are contradicting regarding the increase in the female risk for cardiovascular disease (CVD) at mid-life. Thus, we studied possible sex differences in age-adjusted mortality for CVD and non-vascular diseases stratifying our findings by specific age groups.

Methods: Over one million deaths (1 080 910) reported to the Finnish nationwide Causes of Death Register in 1986–2009 were analyzed. A total of 247 942 male deaths and 278 752 female deaths were of CVD origin, the remaining deaths were non-vascular. The annual mortality rates were calculated per 100 000 mid-year population, separately for men and women in 5-year age categories.

Results: The age-standardized risk of death from CVD was 80% higher for men (442/100 000) than for women (246/100 000). After age 45–54 the male CVD mortality rate elevated parallel to the non-vascular mortality, whereas in women the CVD mortality elevated considerably more rapidly than the non-vascular mortality from age 60 years onwards.

Conclusions: Heart disease mortality in men accelerates at a relatively young age, but in women the risk shows a steep increase at approximately 60 years of age. These data emphasize the need to identify and prevent risk factors for CVD, especially in women in their mid-life years.
Objective: To assess whether younger, but not older, women in China have higher in-hospital mortality following ST-Segment Elevation Myocardial Infarction (STEMI) compared with men, and whether this relationship varied over the last decade or across rural/urban areas.


Results: The overall in-hospital mortality rate was higher in women compared with men (17.2% vs 9.1%, p<0.0001; unadjusted OR 2.07, 95% CI 1.85 to 2.33). The unadjusted OR for mortality in women, compared with men, was 2.20 (95% CI 1.59 to 3.04), 2.21 (95% CI 1.74 to 2.79), 1.37 (95% CI 1.15 to 1.65) and 1.25 (95% CI 0.97 to 1.63) for ages <60, 60–69, 70–79 and ≥80 years, respectively. After adjustment for patient characteristics, hospital characteristics and year of study, the OR for mortality comparing women with men was 1.69 (95% CI 1.01 to 2.83), 1.64 (95% CI 1.24 to 2.19), 1.15 (95% CI 0.90 to 1.46) and 0.82 (95% CI 0.60 to 1.11) for ages <60, 60–69, 70–79 and ≥80 years, respectively. The gender–age interaction for mortality was statistically significant (p=0.009), even after adjustment for a wide range of confounders, and did not vary over time or across rural/urban areas.

Conclusions: Among a Chinese population with STEMI, gender differences in early mortality were age-dependent and greatest in the younger groups <70 years of age.
Cardiovascular disease competes with breast cancer as the leading cause of death for older females diagnosed with breast cancer: a retrospective cohort study


Introduction: Many women who survive breast cancer die of causes unrelated to their cancer diagnosis. This study was undertaken to assess factors that are related to breast cancer mortality versus mortality from other causes and to describe the leading causes of death among older women diagnosed with breast cancer.

Methods: A total of 63,566 women diagnosed with breast cancer met the inclusion criteria and were followed for a median of approximately nine years. Almost one-half (48.7%) were alive at the end of follow-up. Among the total study population, cardiovascular disease was the primary cause of death in the study population (15.9% (95% CI 15.6 to 16.2)), followed closely by breast cancer (15.1% (95% CI 14.8 to 15.4)).

Conclusions: Comorbid conditions contribute importantly to both total mortality and breast cancer-specific mortality among breast cancer survivors. Attention to reducing the risk of cardiovascular disease should be a priority for the long-term care of women following the diagnosis and treatment of breast cancer.
Why do women underestimate the risk of cardiac disease?
A literature review

J Hammond Y Salamonson P Davidson B Everett S Andrew Australian Critical Care 2007;20 53-59.

Findings: Until the late 1980s, CVD was perceived as a disease which primarily affected men, as few large clinical trials recruited women. This resulted in a lack of data documenting the relationship between known risk factors and gender. Until recently, health professionals have not focused on disseminating gender-specific information about CVD risks to women, causing women to underestimate their risk of developing CVD even when risk factors are clearly evident. Furthermore, women are less likely than men to recognise the signs and symptoms of CVD, delay in seeking treatment, and fail to adopt healthy lifestyles, all of which increase the incidence of mortality and morbidity in a disease that is largely preventable.

Conclusion: This review highlights the need for health professionals to ‘bridge the gap’ between perceived and actual risk of CVD in women, and to develop educational programs that specifically target women.
35, a Bullitt Avenue resident, worries about the effect on her unborn child from the sound of jackhammers.
What She Said – What We Said!
One Woman’s Misperceptions of Her Risk Factors for Heart Disease – The Exception or the Rule?

Robert Zecchin¹, Yeng Chai¹, Gail Lindsay¹, Julie Hungerford¹, Jan Baihn¹, Mary Owen¹, Justine Thelander¹, Michelle DiGiacomo², Patricia Davidson², Robert Denniss¹.

1. Cardiac Education and Assessment Program (CEAP) Westmead Hospital.
2. Centre for Cardiovascular and Chronic Care, University of Technology.

ACRA 2012
Misperceptions

What she said:

- “Stress killed me for 20 minutes”
- X’s busy lifestyle was almost the death of her.

What we said:

- Background of depression
- Current smoker: 20/day for 20 years
- Other cardiac risk factors identified:
  - Obesity: BMI 32.3 kg/m2
  - Raised homocysteine levels: 1.8
  - Poor lipid profile: HDL 0.9
- Refused cardiac rehabilitation post-discharge despite encouragement.

Findings from the literature suggest that women source most of their information on health matters from magazines, television, newspapers, and the internet, as well as healthcare providers.
Results: The rate of awareness of CVD as the leading cause of death has nearly doubled since 1997 (55% versus 30%) was significantly greater for whites compared with blacks and Hispanics (62% versus 38% and 34%, respectively) and was independently correlated with increased physical activity (odds ratio, 1.35; 95% CI, 1.00 to 1.83) and weight loss (odds ratio, 1.47; 95% CI, 1.14 to 2.02) in the previous year in logistic regression models. Fewer than half of the respondents were aware of healthy levels of risk factors. Awareness that personal level was not healthy was positively associated with action. Most women took steps to lower risk in family members and themselves. The most frequently cited barriers for heart health were confusion in the media (49%), the belief that health is determined by a higher power (44%), and caretaking responsibilities (36%).

Conclusions—General awareness of CVD risk among women is associated with preventive action. Educational interventions need to be targeted at racial/ethnic minority women.
Accurate casual attributions for CHD have been associated with more congruent risk reduction behaviours and improved health outcomes. This article aimed to assess causal attributions for Coronary Heart Disease (CHD) of Middle Eastern women diagnosed with heart disease using different risk targets and compare these attributions with participants’ actual. Despite being hospitalized with a diagnosis of CHD and having a high burden of risk factors, study participants had limited awareness of their personal risk factors.

Overall, 47, 26 and 9% of participants either inaccurately denied or were uncertain of having hypercholesterolemia, diabetes and hypertension respectively. Only 6% of participants attributed their heart disease to lifestyle factors whilst above half attributed their disease to stress (55%). Participants were more likely to have accurate casual attribution when they applied the risk to women generally than themselves. Middle Eastern women in this study showed inaccurate casual attribution to CHD, particularly when they applied the risk to themselves. A clear specification of risk target is suggested when studying patients’ perceptions of risk and risk factors.
Cardiovascular disease is the largest killer of women internationally and women often suffer inferior outcomes following an acute cardiac event as compared to men. A gendered approach to investigating cardiovascular disease in women incorporates the unique social, cultural, and economic circumstances that being a woman brings to the health encounter. The multiple roles enacted by many women may be important factors in this health discrepancy. In order to more fully understand the impact of the roles of women on health, a questionnaire was administered to participants of the Heart Awareness for Women group cardiac rehabilitation program which assessed women’s role perceptions followed by discussions. We found that caregiving can be both positive and negative. It gives a sense of purpose, meaning, and community connection as well as burden and conflict. Emphasis must be placed on promoting strategies in women to achieve a balance between caregiving responsibilities and prioritisation of cardiovascular health.
This descriptive study was conducted to identify the factors that influence women's attendance at cardiac rehabilitation programs and women's adherence to risk factor modification following a cardiac event. Women (N=196) admitted to hospital for a cardiac event were followed-up at 12 weeks post-discharge. Despite eligibility, only 64% (n=112) had been referred to cardiac rehabilitation programs. By 12 weeks post-discharge only 32% of the total sample (n=57) attended programs and 12% of the total sample (n=21) had dropped out before completion. The odds of a woman attending cardiac rehabilitation were decreased by myocardial infarction diagnosis, lack of employment, <55 years or >70 years, and experiencing a personal stressful event during follow-up. Women were likely to adhere to smoking, medication, and stress modification guidelines but unlikely to adhere to modification guidelines for diet and exercise.
BACKGROUND: Cardiac rehabilitation (CR) reduces mortality in women and men with coronary artery disease (CAD). The objective of this study was to examine sex differences in long-term mortality, based on CR referral rates and attendance patterns in a large CAD population.

DESIGN: This is a retrospective cohort study.

METHODS: The Alberta Provincial Project for Outcomes Assessment in Coronary Heart Disease (APPROACH) and Cardiac Wellness Institute of Calgary (CWIC) databases were used to obtain information on all patients. Rates of referral to and attendance at CR were compared by sex. Logistic regression models were constructed to assess whether sex predicted CR referral or completion. The association between referral, completion, and survival was assessed by sex using Cox proportional hazard models.

RESULTS: 25,958 subjects (6374-24.6%-were women) with at least one vessel CAD were included. Females experienced reduced rates of CR referral (31.1% vs 42.2%, p < 0.0001) and completion (50.1 vs 60.4%, p < 0.0001). Adjusting for demographic and clinical characteristics, relative to men, CR referral was significantly lower in women (adjusted odds ratio (OR) 0.74, 95% CI 0.69, 0.79) as was CR completion (adjusted OR 0.73, 95% CI 0.66, 0.81). Women completing CR experienced the greatest reduction in mortality (HR 0.36, 95% CI 0.28, 0.45) with a relative benefit greater than men (HR 0.51, 95% CI 0.46, 0.56).

CONCLUSION: This is the first large cohort study to demonstrate that referral to and attendance at CR is associated with a significant mortality reduction in women, comparatively better than that in men.
What Women Want (2000)

Dr J.M. Perkins
(played by Bette Midler):

If you know what women want, you can rule!
A Cardiac Rehabilitation Program to Improve Psychosocial Outcomes of Women with Heart Disease
PM Davidson M DiGiacomo RP Zecchin M Clarke G Paul K Lamb K Hancock E Chang J Daly. JOURNAL OF WOMEN’S HEALTH Volume 17, Number 1, 2008

Background and aims: Heart disease in women is characterised by greater disability and a higher rate of morbidity and early death after an acute coronary event compared with men. Women also have lower participation rates than men in cardiac rehabilitation. This study sought to describe development of a nurse-directed cardiac rehabilitation program tailored to the needs of women following an acute cardiac event to address their psychological and social needs.

Results: Women welcomed the opportunity to discuss their individual stories, fears, and challenges and to derive support from contact with other women. Via health professional facilitation, women were able to develop strategies collectively to address risk factor modification and achieve optimal cardiovascular health. Descriptive and qualitative findings revealed decreases in anxiety and an increased sense of social support.

Conclusions: On the basis of this study, a cardiac rehabilitation program tailored to the needs of women appears to be feasible and acceptable. The efficacy of this intervention to improve health-related outcomes needs to be tested in a randomized, controlled trial.
Women’s preferences for cardiac rehabilitation program model: A randomized controlled trial.
Christine Andraos et al. Eur J of Prevent Cardio 2014

Background: Although cardiac rehabilitation (CR) is effective, women often report programs do not meet their needs. Innovative models have been developed that may better suit women. The objectives of the study were to describe: (1) adherence to CR model allocation; (2) satisfaction by model attended; and (3) CR preferences.

Design and methods: Tertiary objectives from a randomized controlled trial of female patients randomized to mixed-sex, women-only, or home-based CR were tested. Patients were recruited from six hospitals. Consenting participants were asked to complete a survey and undertook a CR intake assessment. Eligible patients were randomized. Participants were mailed a follow-up survey six months later. Adherence to model allocation was ascertained from CR charts.

Results: Overall 169 (18.6%) patients were randomized, of which 116 (68.6%) completed the post-test survey. Forty-five (26.6%) participants did not receive the allocated model, with those referred to home-based CR least likely to attend the allocated model (n = 25; 45.4%). Semi-structured interviews revealed participants also often switched from women-only to mixed-sex CR due to time conflicts. Satisfaction was high across all models (mean = 4.23 ± 1.16/5; p = 0.85) but participants in the women-only program felt significantly more comfortable in their workout attire (p = 0.003) and perceived the environment as less competitive (p = 0.02). Patients equally preferred mixed-sex (n = 44, 41.9%) and women-only (n = 44, 41.9%) CR, over home-based (n = 17, 16.2%), with patients preferring the model they attended.

Conclusion: Females were highly satisfied regardless of CR model attended but preferred supervised programs most. Patient preference and session timing should be considered in program model allocation decisions.
Aim: To investigate women’s perceptions of the contribution of cardiac rehabilitation to their recovery from a myocardial infarction.

Background and Purpose: Cardiac rehabilitation programs have been based on research with almost exclusively male participants. It was unclear if cardiac rehabilitation programs meet the needs of women.

Method: Ten women who had experienced one or more myocardial infarctions were interviewed. Data from these interviews were analysed using Glaserian grounded theory.

Findings: The core category that emerged from the data was ‘regaining everydayness’. Participants worked to regain their ‘everydayness’ through a basic social process of ‘reframing’. Reframing involved coming to terms with what they had experienced and fitting it into their lives. Other categories related to symptom recognition and recovery.

Conclusion: Cardiac rehabilitation programs contributed to overall recovery from a myocardial infarction in different ways for each participant. Although programs provided information for participants, they failed to provide the type of support needed to effectively aid reframing and recovery. Programs did not meet the needs of all participants and it was apparent that one size does not fit all.
OBJECTIVE: Women who live alone are becoming an increasing proportion of our population, yet few studies have examined the experiences that these women have during recovery from an acute cardiac event. This study aims to describe women’s experiences of recovering alone from acute coronary syndrome.

METHODS: Women attending cardiac rehabilitation were interviewed 3 to 9 months after acute coronary syndrome using a life history approach to address their personal/social background, professional life, and work-related processes, and to acquire an in-depth narrative of their recovery from illness in relation to this background. The sample included 11 women aged from 44 to 82 years who lived alone.

RESULTS: “Being on my own” was the pervasive theme, with independence being both required and valued. One subtheme included the complexity of social support arrangements women needed for their recovery. This was particularly important because women felt vulnerable when they were alone, particularly if they had experienced a sudden cardiac event or recurrent symptoms. Recurrent cardiac symptoms were an important subtheme because of the pervasive influence on women’s lives, including their ability to work and plan ahead. Finally, the work and financial issues subtheme was a central concern for women, first because work was an important source of income and enjoyment, and second because loss of work meant loss of income. For some women, this meant selling their home or moving to another house.

CONCLUSION: Women who live alone are an increasing proportion of patients with cardiac disease. Although they share many similar issues with other women and men who live alone, they seem to have unique concerns related to vulnerability, recurrent cardiac symptoms, social support, work, and finances.
The benefits of cardiac rehabilitation in coronary heart disease: A gender issue?

*Diana Anjoa et al. Rev Port Cardiol. 2014;33:79-87.*

Introduction and Objectives: Coronary heart disease is the leading cause of death in women worldwide and several studies have shown that they are under-represented in cardiac rehabilitation therapy. The objectives of this study were to assess the prevalence of women in a cardiac rehabilitation program and to assess their response to this intervention.

Methods: This is a retrospective study of 858 patients who attended an exercise-based cardiac rehabilitation program after an acute coronary syndrome or elective percutaneous coronary intervention, between January 2008 and December 2012. The patients were analyzed by gender, and the impact of the intervention on cardiovascular risk factors and NT-proBNP was studied. In a subgroup of 386 patients the impact on functional capacity, resting heart rate, Chronotropic index and heart rate recovery was also analyzed.

Results: Only 24% of the 858 patients who attended the program were women. Women showed statistically significant improvements in all cardiovascular risk factors, NT-proBNP, functional capacity and heart rate recovery \((p<0.05)\) after the program. There were also improvements in resting heart rate and chronotropic index, but these were not statistically significant \((p=0.08\) and \(p=0.40,\) respectively) and when the improvements in these two parameters were compared between genders, there was no statistically significant difference \((p=0.33\) and \(p=0.17,\) respectively).

Conclusions: Only 24% of the patients attending the program were women. We found that they benefited from cardiac rehabilitation therapy, with significant improvements in cardiovascular risk factors and in most of the prognostic markers studied.
Implications for cardiac rehabilitation

- Identifying needs and preferences
- Assessing perception of risk
- Tailoring and developing interventions
- Identifying vulnerabilities and risks
- Refocus on information sharing rather than ‘education’ and ‘teaching’
- More “listening” rather than “talking”
Is eHealth the answer!
Background: As technology evolves and becomes increasingly popular and affordable, more opportunities for e-Health initiatives are presented. We aimed to assess mobile telephone, email and internet use to determine the potential for e-Health initiatives.

Methods: Fifty-eight patients with diagnosed coronary heart disease (CHD) were recruited from a tertiary referral hospital over a four-week period. Consenting patients were asked what technologies they utilised or had access to. A semi-structured interview was held during which the patients were asked whether they owned a mobile telephone, used an email address or had household internet access.

Results: The average age of participants was 65±13 years, with 33% being female. Overall, 47% of patients had access to at least one type of technology and 26% access to all three technologies. Almost half of the recruited participants used a mobile telephone but only less than one-third used email or the internet. Males were more likely to have access to technology with 54% having at least one technology. Approximately one third (32%) of females had access to technology. If a female used one type of technology they tended to have all three. The average age of participants utilising all three technologies was 55±10 years and of those not accessing any of the three technologies was 77±10 years.

Conclusion: With only one in two patients having access to technology e-Health initiatives may be limited. However, both prevalence of CHD and mobile phone ownership is higher in males highlighting feasibility of e-Health initiatives.
Determinants of eligibility and use of e-health for cardiac rehabilitation patients: preliminary results.


To foster implementation of eHealth in care practice, it is important to gain insight into the factors that influence acceptance. The aim of this study was to identify determinants of eligibility and use for completing an electronic needs assessment for cardiac rehabilitation. We analysed the influence of age, gender, diagnosis, health literacy, quality of life scores, and depression and anxiety scores. Among 240 patients entering CR in two clinics, 101 patients were deemed eligible to use the system by their CR professional, of which 75 (74.2%) actually used it. Only 50% of the patients who had an acute coronary syndrome and 20% of the patients with chronic heart failure were deemed eligible. Furthermore, there was a decreasing trend towards usage in female patients, patients with symptoms of anxiety, and patients with a better quality of life. In the future we will continue to explore barriers and success factors as experienced by the patients and the participating clinics to optimize the system.
Heart attack victims delay seeking help
SMH/Hills News May 5, 2013

Delirious with pain: Margaret Kilby didn't call an ambulance after suffering a heart attack, leaving her heart irreparably damaged.

Kenthurst mum who died twice says don't ignore the heart attack warning signs
Hills Shire Times February 07, 2013

VIVIAN Sorbello has every reason to smile. A week after she died twice in the back of an ambulance the Kenthurst mother-of-three was back home enjoying life with her family. For the Hills paramedics who saved her life she is a poster girl of why you should never ignore chest pains or, as in her case a shoulder pain she thought was a pinched nerve.
Rosie O'Donnell shines spotlight on women's heart attacks (CBS News)

Comedienne and television personality Rosie O'Donnell thought the pain she was experiencing was because she pulled or strained a muscle. It wasn't until she felt nauseous and clammy that she realized something might be wrong.

"Maybe this is a heart attack," she wrote of her thoughts on her website. "I googled womens’ (sic) heart attack symptoms, I had many of them but really? - i thought - naaaaa."
BACKGROUND AND OBJECTIVE: Many women do not recognize their risk for coronary heart disease, or identify and respond to cardiac symptoms by seeking medical assistance when symptoms occur. These factors contribute to delays in presentation at hospital, which means that women then have fewer treatment options. This study aimed to describe women’s symptom experiences and treatment-seeking responses to first-time acute coronary syndrome (ACS).

SUBJECTS AND METHODS: Ten women who had experienced their first ACS event, and who had undergone a percutaneous coronary intervention within 24 hours of presentation, consented to participate in semi-structured interviews that focused on their experiences. These women’s narratives of their symptom sand treatment-seeking responses were thematically analyzed.

RESULTS AND CONCLUSION: Women described several issues that contributed to quite complex, multifaceted decision-making processes, from symptom onset to treatment-seeking response, which often contributed to delays. These issues included the occurrence of sometimes intermittent early-warning or prodromal symptoms, the diversity of their symptom experience, beliefs in low vulnerability to coronary heart disease by the women themselves, and health professionals’ responses, which did not always match their needs. Lack of awareness may be particularly important in first-time ACS event. Effective strategies need to be developed to address these issues, including public-education campaigns, and specific education regarding women for health professionals.
Common Excuses
My doctor asked what kind of exercise I get. I told him, "I have a two-year old."

According to this BMI chart...I'm too short.

If my body is ever found along a jogging trail, know that I was murdered elsewhere and dumped there.

I exercised once, but found out I was highly allergic to it. My skin got flushed, my heart was racing, and I was really sweaty and had difficulty breathing. Very dangerous!
First World Excuses
The only death I fear is my phone battery's.

Something is wrong with the world when we pay for water in a bottle, to exercise, and to access our own money.

It's alright, no need to reply. I was just texting you to exercise my fingers.

What do you mean the Doctor said exercise??

I could have sworn he said Accessorize!
But it’s getting better!
EXERCISE can make you feel Strong, Sexy, and ready to take on the world!

Oh wait, that's wine. Wine does that.

Here's a little weight loss secret.... There IS no secret.

Exercise, eat well, repeat.

Your body will thank you.

Exercise:
The pain is temporary, quitting hurts more.

You ask me why do I always post about when I go to the gym to exercise?
The answer is simple; to motivate and inspire others to join me!
Anne-Marie felt nervous after she was discharged from hospital following triple bypass surgery. She had only her immediate family to help her at home. And as she described:

“I felt like I fell through the cracks. When I left the hospital, my husband was given a sick woman in a wheelchair and a big bag of pills. I had heard about cardiac rehabilitation, so I followed up to see if I could join a program as I thought this could help me get back on my feet. But I was told they would get back to me. When they finally did – 15 weeks after my operation – I was already back at work, so couldn’t attend. I wasn’t offered any other alternative.”

Oregon cardiologist Dr. James Beckerman is the author of the highly-recommended book called Heart To Start, in which he slams his colleagues who fail to refer their heart patients to cardiac rehab:

“It is bad medicine to withhold life-saving treatments, and many physicians are selling their patients short. Cardiac rehabilitation is the best medication that you will never find in a television commercial, and its only side effect is a better quality of life.”
Conclusions

- Further investigation into misperceptions by women of the risk factors contributing to cardiovascular disease will inform strategies for patient-provider communication and patient education.

- Women require ongoing educational programs on their heart health, facilitated by national health bodies, cardiac rehabilitation health professionals and the media.
Workshop (30 minutes):
Take 15 minutes to discuss the group’s case study in relation to the questions below, especially how it varies amongst the different contexts in your group (Use butcher paper for notes). Present your key points for discussion (3 minutes per presentation)

1. Is your CR program adapted/tailored for women? i.e. does it account for referral, outcomes, psychosocial aspects, depression and anxiety screening, empowerment/motivational interviewing?

2. What are your local social support networks for women? – consider web-based sources of information, as well as non-traditional support e.g. faith-based groups, indigenous story-telling etc.

3. Men and women do differ in regards to heart disease but how?

4. What are the similarities between women and men in regards to heart disease?