

The logo features a large, stylized number "45" in gold and red, with a red heart symbol integrated into the "5". To the right, it says "Egyptian Society of CARDIOLOGY" with a red heart symbol. Below this are the logos of three universities: Menoufia University (a green triangle with a sun), Tanta University (a blue circle with a book), and Zagazig University (a yellow triangle with a book).

45<sup>TH</sup>

Egyptian Society of  
CARDIOLOGY

جامعة المنوفية Menoufia University    جامعة طنطا Tanta University    جامعة الزقازيق Zagazig University

45<sup>th</sup> Annual International Congress of the  
EGYPTIAN SOCIETY OF CARDIOLOGY  
**CardioEgypt 2018**

„Cardiovascular disease has the same meaning for health care today as the epidemics of centuries had for medicine in earlier times: 50% of the population in developed countries die of cardiovascular disease” (Pál Kertai)

Someone has a heart attack every two minutes (British Heart Foundation)

## Parts of Cardiovascular Epidemiology

- ▣ *1., Descriptive epidemiology:*
- ▣ = Describing distribution of cardiovascular disease by means of certain characteristics such as : PERSON (i.e., age, gender, ethnicity) TIME and PLACE
- ▣ *2., Analytic epidemiology*
- ▣ = Analyzing relationships between CVD and risk factors (which elevate the probability of a disease at population level), risk model and multicausal developments
- ▣ *3., Experimental epidemiology/Interventions*
- ▣ = Strategies of cardiovascular prevention (primordial, primary, secondary, tertiary; individual and community levels)

## Descriptive Epidemiology I. Distribution Patterns in the World

- ▣ In the world: CVD deaths account for one third of all deaths (25-50% depending on the level of economic development) among which 50%: coronary deaths
- ▣ CVD made up 16.7 million of global deaths in 2002, among which 7 million due to coronary heart disease, 6 million due to stroke
- ▣ Distribution of types of CVD in global deaths :
- ▣ Global cardiovascular deaths in 2002: 16.7 million
- ▣ among which: coronary heart disease 7.2 million > stroke 6.0 million > 0.9 million hypertensive heart disease > 0.4 million inflammatory heart disease > 0.3 million rheumatic heart disease > 1.9 million other CVD

## Descriptive Epidemiology VI. World Trends

- ▣ **Developed countries: decreasing tendencies** (e.g, USA: 30% between 1988-98, Sweden: 42%)
- ▣ - improvement of lifestyle factors, for example, a decrease of smoking and a higher level of health consciousness in many developed countries
- ▣ - better diagnostic and therapeutic procedures (e.g., bypass surgeries, hypertension screening, pharmacological treatment of hypertension and hypercholesterinaemia, access to health care)
- ▣ **Developing countries: increasing tendencies**
- ▣ - increasing longevity, urbanization, and western type lifestyle

## Descriptive Epidemiology II. AGE

- Question: What is the relative amount of CVD in death rates in different age groups?
- - Early lesions of blood vessel, atherosclerotic plaques: around 20 years - adult lifestyle patterns usually start in childhood and youth (smoking, dietary habits, sporting behavior, etc.)
- - Increase in CVD morbidity and mortality: in age-group of 30-44 years
- - Premature death (<64 years of age, or 25-64 years): in the elderly population more difficult to interpret death rate due to multiple ill health causes

## Descriptive Epidemiology III. SEX

- Question: What is the relative amount of CVD in death rates in women and men?
- - Widespread idea: CVD is often thought to be a disease of middle-aged men.
- - Cardiovascular mortality (fatal cases) are more common among men. However, CVD affect nearly as many women as men, albeit at an older age
- - Women: special case (WHO, 2004)
- a., Higher risk in women than men (smoking, high triglyceride levels)
- b., Higher prevalence of certain risk factors in women (diabetes mellitus, depression)
- c., Gender-specific risk factors (risks for women only) (oral contraceptives, hormone replacement therapy, polycystic ovary syndrome)



Heart Disease and Stroke Statistics 2018  
At-a-Glance

Here are a few key statistics about heart disease, stroke, other cardiovascular diseases and their risk factors, in addition to commonly cited statistics about the American Heart Association's research program. The source for the health statistics is the Association's 2018 Heart Disease and Stroke Statistics Update, which is compiled annually by the American Heart Association, the Centers for Disease Control and Prevention, the National Institutes of Health and other government sources. The years cited are the most recent available for each statistical category. The source for the research information is the Association's Science Operations Department.

Key words included in the article:  
cardiovascular diseases; epidemiology; risk factors; statistics; stroke

Cardiovascular diseases  
claim more lives each  
year than all forms of  
cancer and Chronic Lower  
Respiratory Disease  
combined.

# Cardiovascular disease in Women

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National Council for women

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## WOMEN AND HEART DISEASE

- Worldwide, 8.6 million women die from heart disease each year, accounting for a third of all deaths in women. Three million women die from stroke each year. Stroke accounts for more deaths among women than men (11% vs 8.4%) with additional risk for CHD unique to women related to oral contraceptive use in combination with smoking.
- 42% of women who have heart attacks die within 1 year, compared to 24% of men.
- Under age 50, women's heart attacks are twice as likely as men's to be fatal.

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# WOMEN AND HEART DISEASE

- 71% of women experience early warning signs of heart attack with sudden onset of extreme weakness that feels like the flu - often with no chest pain at all. Medical professionals are challenged to respond to women's milder symptoms, acting with insufficient guidelines.
- Nearly two-thirds of the deaths from heart attacks in women occur among those who have no history of chest pain.

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Table 2. Pretest Probability for Coronary Artery Disease by Age, Sex, and Symptoms\*

Age, y	Sex	Typical/Definite Angina Pectoris	Atypical/Probable Angina Pectoris	Nonanginal Chest Pain	Asymptomatic
30-39	Men	Intermediate	Intermediate	Low	Very low
	Women	Intermediate	Very low	Very low	Very low
40-49	Men	High	Intermediate	Intermediate	Low
	Women	Intermediate	Low	Very low	Very low
50-59	Men	High	Intermediate	Intermediate	Low
	Women	Intermediate	Intermediate	Low	Very low
60-69	Men	High	Intermediate	Intermediate	Low
	Women	High	Intermediate	Intermediate	Low

High indicates >50%, intermediate 10% to 50%, low <10%, very low <5%. Reused with permission from Gibbons et al.<sup>16</sup>

\*No data exists for patients <30 or >89 y but it can be assumed that prevalence of coronary artery disease increases with age. In a few cases, patients with ages at the extremes of the decades listed may have probabilities slightly outside the high or low range.

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## WOMEN AND HEART DISEASE

- Smoking, diabetes and dyslipidemias erase a woman's estrogen protection.
- Women who smoke risk having a heart attack 19 years earlier than non-smoking women.
- Women with hypertension experience a risk of developing CHD 3.5 times that of females with normal blood pressure. High blood pressure is more common in women taking oral contraceptives, especially in obese women.

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## WOMEN AND HEART DISEASE

- Women with diabetes have more than double the risk of heart attack than non-diabetic women. Diabetes doubles the risk of a second heart attack in women but not in men. Diabetes affects many more women than men after the age of 45.
- Marital stress worsens the prognosis in women with heart disease.

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## Compared to Men:

- Men's plaque distributes in clumps whereas women's distributes more evenly throughout artery walls. This results in women's angiographic studies being misinterpreted as "normal".
- Women wait longer than men to go to an emergency room when having a heart attack and physicians are slower to recognize the presence of heart attacks in women because "characteristic" patterns of chest pain and ECG changes are less frequently present.

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## Compared to Men:

- After heart attack, women are less likely than men to receive beta blockers, ACE inhibitors and aspirin - therapies known to improve survival. This contributes to a higher rate of complications after heart attacks in women, even after adjusting for age.
- 38% of women and 25% of men will die within one year of a first recognized heart attack.
- Women are twice as likely as men to die within the first few weeks after suffering a heart attack.
- 46% of women and 22% of men heart attack survivors will be disabled with heart failure within six years.

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## Compared to Men:

- Women are two to three times as likely to die following heart bypass surgery. Younger aged women between the ages of 40-59 are up to 4 times more likely to die from heart bypass surgery than men the same age.
- Since 1984, more women than men have died each year from heart disease and the gap between men and women's survival continues to widen.

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## Compared to Men:

- Women receive fewer heart disease procedures than men, however, more is not necessarily better in this setting and the best course of treatment for a woman with heart disease has yet to be established.
- Women's hearts respond better than men's to healthy lifestyle changes.
- Women comprise of only 24% of participants in all heart-related studies

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## Cardiovascular disease (CVD) remains the leading cause of death in women

For the past 3 decades, dramatic declines in heart disease mortality for both men and women have been observed, especially in the >65 years age group. However, recent data suggest stagnation in the improvements in incidence and mortality of coronary heart disease, specifically among younger women (<55 years).

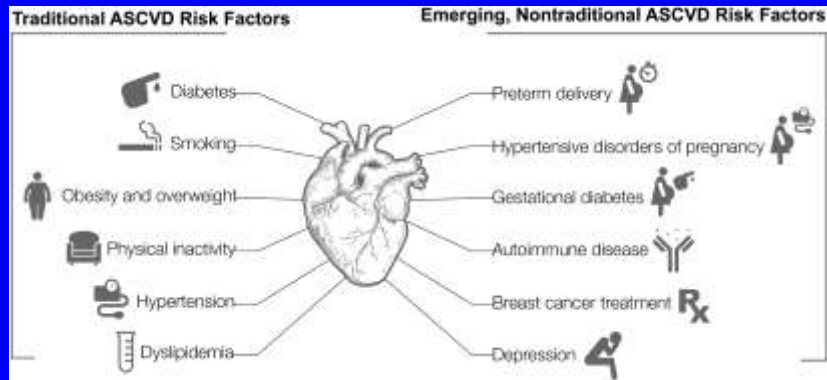
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## What to do .....

- It is imperative that we understand the mechanisms that contribute to worsening risk factor profiles in young women to reduce future atherosclerotic cardiovascular disease (ASCVD) morbidity and mortality.
- Increased recognition of the prevalence of traditional ASCVD risk factors, and their differential impact in women, as well as emerging, nontraditional risk factors unique to or more common in women, contribute to new understanding of mechanisms leading to these worsening outcomes for women

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**Traditional and nontraditional atherosclerotic cardiovascular disease (ASCVD) risk factors in women.**



Mariana Garcia et al. *Circ Res.* 2016;118:1273-1293



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Diagnosis of acute coronary syndromes (ACS) is often challenging in women, especially young women, and it is important to recognize differences in the signs and symptoms at presentation to improve patient management and outcomes.

## Women and prevention

- Women are less likely to receive preventive treatment or guidance, such as lipid-lowering therapy, aspirin (ASA), and therapeutic lifestyle changes, than are men at similar ASCVD risk
  - Abuful A, Gidron Y, Henkin Y. Physicians' attitudes toward preventive therapy for coronary artery disease: is there a gender bias? *Clin Cardiol.* 2005;28:389–393.
  - Mosca L, Linfante AH, Benjamin EJ, Berra K, Hayes SN, Walsh BW, Fabunmi RP, Kwan J, Mills T, Simpson SL. National study of physician awareness and adherence to cardiovascular disease prevention guidelines. *Circulation.* 2005;111:499–510. doi: 10.1161/01.CIR.0000154568.43333.82

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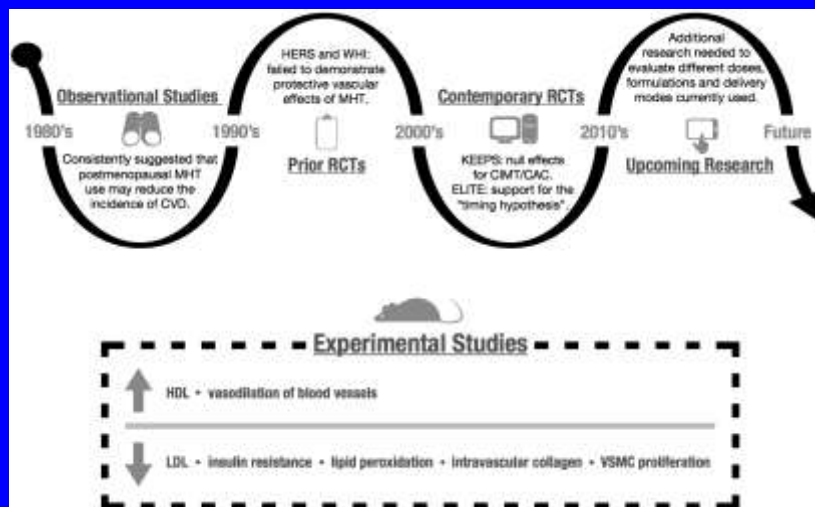
- Findings from the longitudinal, observational Nurses' Health Study highlighted the critical importance of lifestyle modifications in CAD prevention, demonstrating that women can reduce their risk of coronary events by >80% by not smoking, maintaining healthy body weight (body mass index <25 kg/m<sup>2</sup>), consuming a healthy diet, participating in moderate to vigorous exercise for 30 minutes a day,

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- The Effect of Potentially Modifiable Risk Factors Associated With Myocardial Infarction in 52 Countries (INTERHEART) study was a large case–control study that screened all patients admitted to the coronary care unit or equivalent cardiology ward for a first MI at 262 participating centers in 52 countries. INTERHEART identified 9 easily measured risk factors (smoking, lipids, hypertension, DM, obesity, diet, physical activity, alcohol consumption, and psychosocial factors) that account for over 90% of the risk for acute MI.

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### Menopausal hormone therapy timeline.



Mariana Garcia et al. Circ Res. 2016;118:1273-1293



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Risk Factor	Sex-Based Differences	Recommendation
Diabetes mellitus 	DM: women with DM have a 3-fold excess risk of fatal CAD compared with nondiabetic women.	Both women and men with DM should have aggressive management of their CVD risk factors. Observational studies suggest that women may require greater frequency/intensity of physical activity than men to reduce CVD events.
	MI: earlier occurrence and higher mortality in diabetic women compared with diabetic men. Lower revascularization rates in diabetic women compared with diabetic men.	
	HF: diabetic women have a higher risk of developing HF compared with diabetic men.	
	Stroke: DM is a stronger risk factor for stroke in women compared with men.	
	PAD: DM is a stronger risk factor for the development of claudication in women compared with men. Decreased long-term survival in women undergoing revascularization and increased postsurgical mortality are seen in diabetic women with PAD compared with diabetic men with PAD.	
Hypertension 	Higher prevalence of HTN in women over age 60 than in men.	Encourage optimal BP through diet, exercise, and avoidance of excess alcohol and sodium.
	Less well controlled in women than men.	Pharmacotherapy is indicated when blood pressure is >140/90 mm Hg.

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Dyslipidemia 	Among women, dyslipidemia has the highest PAR at 47.1%, compared with all other known risk factors for CVD.	Statins are equally effective for secondary CVD prevention in both men and women; however, statins may contribute to a greater likelihood of developing DM and myalgias in women. Statins are recommended for primary prevention in women; however, randomized trial evidence in women is limited.
	Atherosclerosis regression and LDL lowering may be even greater among women on statins than in men.	
Obesity 	The impact of obesity on the development of CAD appears to be greater in women than in men. In the Framingham Heart Study, obesity increased the risk of CAD by 64% in women compared with 46% in men.	Women should maintain or lose weight through an appropriate balance of physical activity and diet. Women who need to lose weight should be advised to accumulate a minimum of 60 to 90 min of at least moderate-intensity physical activity preferably all days of the week.
Physical inactivity 	The prevalence of inactivity and sedentary behaviors is higher among women than men.	Overwhelming evidence indicates that regular physical activity is one of the most powerful health-promoting practices that clinicians can recommend for patients.  Women should be advised to accumulate at least 150 min/wk of moderate exercise, 75 min/wk of vigorous exercise, or an equivalent combination.
Smoking 	In a recent meta-analysis by Huxley et al, it was reported that in all age groups with the exception of the youngest (30–44 y), women had a significant 25% increased risk for CAD conferred by cigarette smoking compared with men	Smoking is associated with a decade of lost life, and cessation reduces that loss by about 90%.
		Women should be advised not to smoke and to avoid environmental tobacco smoke. Provide counseling at each encounter, nicotine replacement, and other pharmacotherapy/behavioral therapy as indicated.

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# اعلان القاهرة لصحة المرأة العربية مارس 2017



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 مجلس وزراء الصحة العرب  
 الدورة العادية (47) مارس 2017

**إعلان القاهرة حول صحة المرأة العربية لعام 2017**  
 "صحتك هي أولويتنا"

نحن وزراء الصحة العرب المشاركون في أعمال الدورة العادية (47) لمجلس وزراء الصحة العرب، المنعقد في مقر الجامعة لعاصمة الدولة العربية بالقاهرة، يوم 8 مارس 2017.

نرحب عن شعرا للأمانة العامة لجامعة الدول العربية - إدارة الصحة والمساعدات الإنسانية - الأمانة الفنية لمجلس وزراء الصحة العرب، والمجلس القومي للمرأة بجمهورية مصر العربية، ووزارة الصحة والمساواة بجمهورية مصر العربية، واتحاد المستشفيات العربية، على جهودهم التي ساهمت في إنجاز هذا الإعلان.

وإن نؤكد على القيم والمبادئ والأهداف التي تشتملها إستراتيجية التموض بالمرأة العربية، والحيثق العربي لحقوق الإنسان، والتفاني للقضاء على كافة أشكال التمييز ضد المرأة ومشاكلها، وبسماح عمل بيجت الصغار عن المؤتمر العالمي الرابع للمرأة في بيجت عام 1995، وإعلان الأمم المتحدة للألفية والأهداف التنموية للألفية.

وإن نلتم الجهود العربية الساعية لتنفيذ كافة الاتفاقيات المعنية بالتموض بالمرأة وأنتمن حقوقها وتجاوز سبل تمهيتها على كافة المستويات في المنطقة العربية.

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- أهداف التنمية المستدامة 2030 لصادرة عن الجمعية العامة للأمم المتحدة في سبتمبر 2015. لاسيما الهدف الثالث وهو الصحة الجيدة والرفاه، والأهداف المتعلقة بالمساواة بين الجنسين وتمكين المرأة، والحد من أوجه عدم المساواة، والشراكات العلمية والمجتمعات العادلة والمساومة والشاملة، وكذلك ما تتضمنه هذه الأهداف من غايات صحية بهدف تحسين خدمات الرعاية الصحية لتلامهات وضمان حقوقها الصحية نذكر منها:
  - خفض النسبة العالمية للتوفيات النفسية إلى أقل من 70 حالة وفاة لكل 100 000 مولود حي بحلول عام 2030
  - وضع نهاية لتوفيات المواليد والأطفال دون سن الخامسة التي يمكن تفاديها بحلول عام 2030. يسعي جميع البلدان إلى بلوغ هدف خفض وفيات المواليد على الأقل إلى 12 حالة وفاة في كل 1 000 مولود حي، وخفض وفيات الأطفال دون سن الخامسة على الأقل إلى 25 حالة وفاة في كل 1 000 مولود حي
  - وضع نهاية لأوبئة الإيدز والمل و الملاريا والأمراض المدارية المهملة ومكافحة الانتهاب الكبدى الوبالى والأمراض المنقولة بالمياه والأمراض المعدية الأخرى بحلول عام 2030
  - تخفيض الوفيات المبكرة الناجمة عن الأمراض غير المعدية بمقدار الثلث من خلال الوقاية والعلاج وتعزيز الصحة والسلامة العلتيين بحلول عام 2030
  - تعزيز الوقاية من إساءة استعمال المواد، بما يشمل تعاطي المخدرات وتناول الكحول على نحو يضر بالصحة، وعلاج ذلك
  - خفض عدد الوفيات والإصابات الناجمة عن حوادث المرور إلى النصف بحلول عام 2020
  - ضمان حصول الجميع على خدمات رعاية الصحة الإيجابية، بما في ذلك خدمات ومعلومات تنظيم الأسرة والتنوعية الخاصة به، وإمماج لصحة الإيجابية في الاستراتيجيات والبرامج الوطنية بحلول عام 2030

- تحقيق تغطية صحية شاملة، بما في ذلك الحماية من المخاطر المالية، وإمكانية الحصول على خدمات الرعاية الصحية الأساسية لجيدة وإمكانية حصول الجميع على الأدوية والثقاتل جيدة والفعالة والميسورة التكلفة
- لحد بدرجة كبيرة من عدد الوفيات والأمراض الناجمة عن التعرض للمواد الكيميائية الخطرة وتلوث وتلوث الهواء والماء والتربة بحلول عام 2030
- تعزيز تنفيذ الاتفاقيات الإطارية لمنظمة الصحة العالمية لمكافحة التبغ في جميع البلدان، حسب الاقتضاء
- دعم البحث والتطوير في مجال اللقاحات والأدوية للأمراض المعدية وغير المعدية التي تتعرض لها البلدان النامية في المقام الأول، وتوفير إمكانية الحصول على الأدوية والثقاتل الأساسية بأسعار معقولة، ولقفا لإعلان الدوحة بشأن الاتفاق المتعلق بالجوانب المتصلة بالتجارة من حقوق الملكية الفكرية وبالصحة العامة، الذي يؤكد حق البلدان النامية في الاستفادة بالكامل من الأحكام الواردة في الاتفاق بشأن الجوانب المتصلة بالتجارة من حقوق الملكية الفكرية المتعلقة بأوجه المرونة اللازمة لحماية الصحة العامة، ولا سيما العمل من أجل إمكانية حصول الجميع على الأدوية
- زيادة التمويل في قطاع الصحة وتوظيف القوى العاملة في هذا القطاع وتطويرها وتدريبها واستقبالها في البلدان النامية، وبخاصة في أقل البلدان نموا والدول الجزرية الصغيرة النامية، زيادة كبيرة
- تعزيز قدرات جميع البلدان، ولا سيما البلدان النامية، في مجال الإنذار المبكر والحد من المخاطر وإدارة المخاطر الصحية الوطنية والعالمية.

# Conclusion

More well designed research  
focusing on women  
is needed

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**0 3 5 140 5 3 0**

**People who stay healthy tend  
to have certain characteristics:**

- 0** No tobacco
- 3** Walk 3 km daily, or 30 mins any moderate activity
- 5** Portions of fruit and vegetables a day
- 140** Blood pressure less than 140 mm Hg systolic
- 5** Total blood cholesterol <5 mmol/l
- 3** LDL cholesterol <3 mmol/l
- 0** Avoidance of overweight and diabetes

[www.escardio.org](http://www.escardio.org)



