INTERNATIONAL NETWORK OF WOMEN AGAINST TOBACCO

CARMELA Study TOBACCO AND CORONARY HEART DISEASE IN WOMEN

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Cigarette smoking remains the leading preventable cause of coronary heart disease in women, with more than 50% of myocardial infarctions (heart attacks) in middle-aged women attributable to tobacco. According to 2008 American Heart Association statistics, cigarette smoking kills an estimated 178 000 women in the United States annually and female smokers die 14.5 years earlier than female nonsmokers. Additionally, the risk of coronary heart disease increases 25% to 30% from exposure to secondhand smoke. Tobacco addiction also increases the risk for respiratory diseases and cancer, and it taxes public health resources. [1,2]

In low and middle-income countries there is not enough information available to local policy-makers so they can implement tobacco control measures in accordance with specific cultural and economic factors. [3,4]

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By: Lorraine Greaves

President's Corner

Hearts matter

This issue of the NET is about hearts. Women's hearts. Women's heart health, disease, research, policy and practice. It is about the key disease caused by tobacco smoking. We are pleased to be launching this issue in China, at the World Heart Federation's World Congress of Cardiology and the 3rd International conference on Women, Heart Disease and Stroke, being held in Beijing. At this conference, due to the efforts of some dedicated women leaders in the World Heart Federation, women's tobacco use is featured in two separate symposia, and INWAT leaders have been invited to shape the discussions. Accordingly, this issue of the NET shines a spotlight on women's heart health.

For several decades heart disease was thought to be a man's disease, and women's heart heath was not on the radar.

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In part that was because women's smoking rates in many countries lagged behind men's, resulting in later development of heart disease, chronic obstructive lung disease (COPD) and lung cancer. So the impacts of smoking on heart disease, or, of heart disease on women, were unacknowledged in practice, research and public education.

But now we know differently. Heart disease is now the leading cause of death among women in many countries around the world. It also shortens lives. Women smokers in the USA die 14.5 years earlier than non smokers, according to the American Heart Association. But few women (and men) are aware of this and the risk factors determining women's heart health. While there are several risk factors, such as high blood pressure and cholesterol levels, lack of exercise and poor diet, smoking tops the list of key contributors to heart disease.

In this issue we approach this topic in many directions and in articles and examples from around the world. Our feature article is about the CARMELA study, run by the InterAmerican Heart Foundation which is assessing heart health among women and men across seven Latin American cities. Its results illustrate the diversity among and between countries and highlights the complex responses needed to arrest smoking among women. Of particular importance is that women of reproductive age had the highest rates of smoking in many of these cities.

The article from another Heart Foundation, the Irish Heart Foundation, indicates similar concern about women's heart health. In addition, Angie Brown notes two other facts; that women underestimate the risk, thinking that breast cancer is a bigger health risk, and that not enough sex specific research is being done on women's heart health.

Similarly, the evidence review on women's heart health from the British Columbia Centre of Excellence for Women's Health illustrates that evidence on prevention, policy, treatment and diagnosis is all wanting-either under developed, or not happening at all. What we do learn from this review is that women are often under treated for heart disease and that policy is critically important in addressing both gendered risk factors and inadequate research funding policies that do not require sex and gender specific research designs.

Amanda Amos from Scotland highlights the evidence of the impact of recent smoke free bans in both Scotland and Canada, that indicates that such bans make and immediate difference to the incidence of admissions for heart attacks in the populations. Sophia Chan's article on cessation among a large randomized sample of women cardiac patients in Hong Kong, reminds us how difficult it is for women to quit, even for women struggling with heart disease. This article underscores the importance of investing in the prevention of tobacco use and heart disease in women.

Finland's PuNainen Campaign (Go Red Campaign), part of the World Heart Federation's Go Red for Women Campaign is aimed at both prevention and raising awareness. It is aimed at mid-life women who are on "running on a treadmill" in busy life situations. This business, often aimed at caring for others instead of own health, is a critical, and very gendered, issue for women worldwide.

INWAT is thriving, thanks to your support. We are an official Non Governmental Organization of the World Health Organization, and steadily and energetically building our networks and membership around the world. INWAT is run entirely by volunteers, with no major funding, out of a desire to help reduce the impact of tobacco on women around the world, and to achieve improvements in women's status at the same time.

Many individuals tell me how important INWAT is to them, and how proud they are to be members. Please enjoy this issue, protect your hearts, and recruit a new member to INWAT today. It's free and informative.

Gender and tobacco with an emphasis on marketing to women:

World No Tobacco Day 2010

The World Health Organization (WHO) has launched World No Tobacco Day, May 31, 2010, under the theme "Gender and tobacco with an emphasis on marketing to women" to raise attention to the issue of gendered marketing strategies. This theme is important every day of the year and helps to shed light on the creatively deceptive strategies the tobacco industry uses to addict new users including girls.

There are 1.3 billion smokers in the world and the majority live in low and middle income countries.[1] 12% of the female population smokes regularly[2] and this number is expected to rise to 20% by 2025. [3] The Global Youth Tobacco Survey notes that there are similar numbers of girls and boys smoking in some of the countries surveyed.[4] Data from 151 countries show that about 7% of adolescent girls and 12% of adolescent boys smoke cigarettes.

According to the WHO, World No Tobacco Day 2010 will give overdue recognition to the importance of controlling the epidemic of tobacco among women. As WHO Director-General Margaret Chan wrote in the report Women and health: today's evidence, tomorrow's agenda [5], "protecting and promoting the health of women is crucial to health and development – not only for the citizens of today but also for those of future generations".

The WHO Framework Convention on Tobacco Control (FCTC) expresses alarm at "the increase in smoking and other forms of tobacco consumption by women and young girls worldwide." The Preamble of the Treaty reminds Parties to, "…(keep) in mind the need for full participation of women at all levels of policy-making and implementation and the need for gender-specific tobacco control strategies." This preamble is to be woven into every Article of the WHO-FCTC. In other words, gender-specific strategies are to be used in order to effectively halt the promotion of tobacco use in societies. The Guidelines for Article 13 of the FCTC recommend a comprehensive ban on tobacco advertising including inhibiting not so obvious marketing methods such as brand stretching, point of purchase marketing and sponsorships.

In the 2007 WHO report, *Sifting the evidence: gender and tobacco control*, it was stated that "Both men and women need full information about the sex-specific effects of tobacco use…equal protection from gendered advertising and marketing and the development of sex-specific tobacco products by transnational tobacco companies…[and] gender-sensitive information about, and protection from, second-hand smoke and occupational exposure to tobacco or nicotine."

While marketing tobacco to women remains an important way for the tobacco industry to promote its deadly products, there are steps being taken in many countries by both governments and organizations such as INWAT to block all promotion and marketing by the tobacco industry. INWAT raises awareness of marketing strategies via our communications channels and membership. INWAT also supports the tightest implementation of the FCTC in the countries that have ratified the Treaty.

Despite these efforts, women and girls, especially those in low and middle income countries, are extremely vulnerable to increasing their tobacco use, with the consequent increases in disease, disability and death. In addition, the economic impact of increased tobacco use among girls and women will prevent many families, communities and countries from realizing their full potential.

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CARMELA Study …

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Smoking prevalence in Latin America and the Caribbean varies widely, not only between countries but within countries. It has been estimated that Latin American and Caribbean countries are in the second stage of the epidemic, with male smoking prevalence showing a marked increase and female prevalence just beginning to increase.[1] Latin America is a huge region with differences in economic resources, health policies and levels of development, and the populations have social and cultural differences. It has big and crowded cities where not all the population has the same access to health and education services. In most of Latin America, cardiovascular disease is the leading cause of death and disability for men and women, as it is in the majority of world's regions. Especially for women, risk factors epidemiological data were cited as disparate and not comparable between countries.[5]

Epidemiological surveys have shown that although risk factors for women are the same as for men, sex-related differences exist. Tobacco addiction, dyslipidemia, high blood pressure, diabetes mellitus, sedentary life style, obesity and poor nutrition, are mentioned as more important factors in the development of cardiovascular disease for women than for men.[6,7]

The CARMELA study was designed and conducted by the InterAmerican Heart Foundation to collect homogeneous and valid data on cardiovascular risk factors, including tobacco use, in the general population of the region. CARMELA is an acronym for Cardiovascular Risk factor Multiple Evaluation in Latin America, and it was a cross-sectional, randomized, observational study with the objective of assessing and comparing the prevalence of cardiovascular risk factors, socioeconomic aspects, risk factor treatment and control, and common Carotid Far Wall Intima-media Thickness (CCAIMT) distributions in seven Latin American cities: Barquisimeto, Venezuela; Bogota, Colombia; Buenos Aires, Argentina; Lima, Peru; Mexico City, Mexico; Quito, Ecuador; and Santiago, Chile. There were approximately 1600 participants between the ages of 25 and 64 per city, for a total of 11500 subjects.[8] There were 6119 women, with a mean age of 44.59 years included in the study.

Female smoking prevalence for these cities was found to be higher than previous estimates. Our data showed a wide range of tobacco prevalence in women between cities. With the exception of Quito, the prevalence was higher than rates reported for Hispanic women (10.9%) in the USA [9] and even higher than reported in WHO statistics for those entire countries.[5,10]

Santiago and Buenos Aires had the highest prevalence of smokers (45.4% and 38.6%, respectively), and male and female rates were similar. In other cities, men smoked more than women, most markedly in Quito (49.4% vs. 10.5%, men vs. women, respectively). [1]
In Santiago and Buenos Aires, the rates of smoking in women are among the world's highest, and younger women are heavy smokers. The CARMELA study showed that even in cities where the overall prevalence of tobacco use was low, women of reproductive age had the highest prevalence.[11]

Traditionally, it was believed that women typically stop smoking at reproductive age; however, the highest smoking rates were found to be among the youngest two age groups. It is well known that tobacco addiction commonly starts during adolescence, carrying for women severe health risks during pregnancy as well as for their infants. Strong efforts are needed to encourage pregnant women to stop smoking as early as possible to avoid these health risks. [12]
In our study, a decrease in smoking prevalence was observed only for women older than 55 in cities like Santiago, Buenos Aires and even in Mexico City.[11] Substantial secondhand tobacco smoke exposure was reported at home and in the workplace.[1]

Figure I: Prevalence and 95%CI of tobacco use by sex and by city
References: graphic adapted from reference # 8. Tobacco use definition: Daily use or occasionally use of any type of cigarettes, cigars, Havana cigars, pipes, etc.

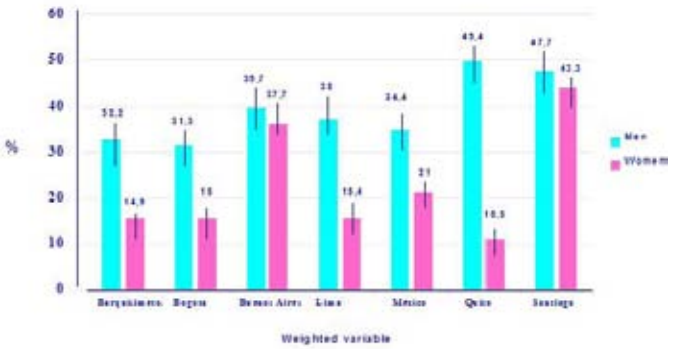
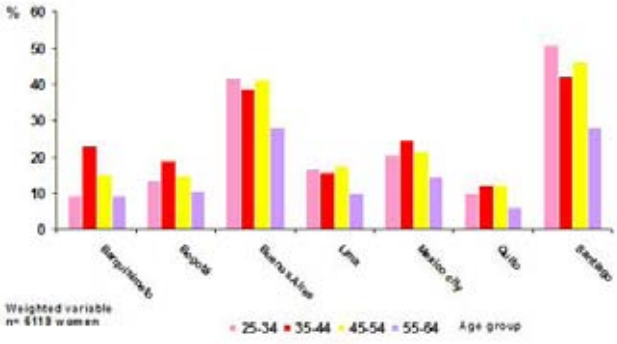


Figure 2: Prevalence of tobacco use in women according to age group by city
References: graphic adapted from reference # 11. Tobacco use definition: Daily use or occasionally use of any type of cigarettes, cigars, Havana cigars, pipes, etc.



Tobacco use was fairly common in participants, including women, with hypertension, with a direct increase in the risk of cardiovascular disease.

Figures 1, 2, 3 and 4 show the relevant finding on tobacco use in women in the seven Latin American cities participating in the CARMELA study.

In conclusion, the CARMELA study is the largest study done in Latin America to evaluate the prevalence of cardiovascular risk factor in different age groups that included a substantial number of women. We found that the prevalence of cardiovascular risk factors in women to be different between cities, and the highest prevalence of tobacco use was in younger women of reproductive age. Population-wide strategies are needed in Latin America to combat cardiovascular disease in women and to control the tobacco epidemic.

Figure 3: Mean of daily consumption of cigarettes by sex and city in participants who smoked within the month prior to survey

References: Graphic adapted from ref # 1

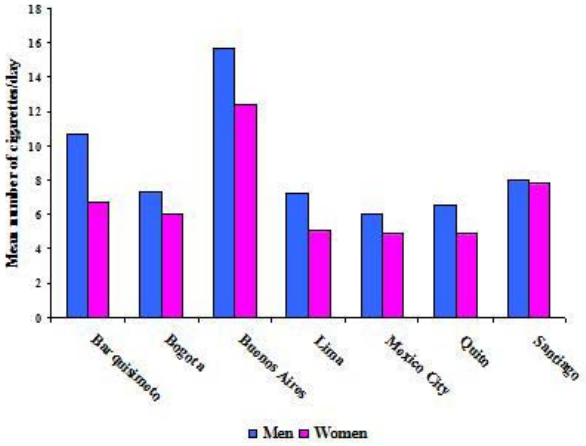


Figure 4: Prevalence and 95%CI of the association of hypertension and tobacco use in women by city

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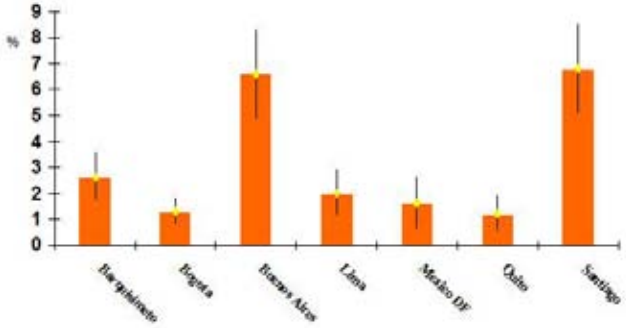

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Smokefree legislation is good for women's hearts

By Amanda Amos

Exposure to secondhand smoke (SHS) is now recognised as an important cause of death and disease. SHS can cause lung cancer and coronary heart disease and is linked to a range of other health problems in children and adults including respiratory problems and, in women, breast and cervical cancer.[1] An increasing number of countries, regions and communities around the world are taking action to create smoke-free public places.[2] International research evidence now clearly shows that when smokefree legislation is comprehensive, exposure to SHS is reduced and there are significant health benefits.[3]

Perhaps the most striking findings on the immediate positive health impacts have been the dramatic reductions in hospital admissions for acute myocardial infarctions (AMI). Scotland was one of the first countries to introduce a complete ban on smoking in enclosed public places and undertook a comprehensive evaluation of the impact of the ban,[4] including the most scientifically rigorous study so far to assess the impact on hospital admissions for AMI.[5] The study by Pell and colleagues[5] found that admissions for acute coronary syndrome dropped by 17% in the year following the ban. The reduction was significantly greater in women compared to men. They suggest that this may be due to a greater decrease in SHS exposure in women and/or a similar reduction in SHS exposure having greater benefits for women than men.

Reductions in hospital admissions, ranging from 2-50% have also been found in several studies in other countries. Two recent meta-analyses of relevant studies found an overall 15% per year reduction in the incidence of AMI.[6-7] Unfortunately most of the studies did not analyse the data by sex, but the meta-analyses indicated that reductions were more common among non-smokers and young people.

A recently published study from Canada indicates that the health benefits of smoke-free legislation in terms of reductions in hospital admissions may not just be confined to AMI.[8] This study found that following the introduction of restaurant smoking bans in parts of Ontario there was a decline in hospital admissions of 39% for cardiovascular conditions (AMI, stroke, angina) and 33% for respiratory conditions (asthma, COPD, pneumonia, bronchitis) compared to control communities without bans. There was no significant difference in these reductions between women and men.

These studies show that comprehensive bans on smoking in enclosed public places are not only good for women's hearts but for women's health more generally. In countries with a long history of smoking, such as Scotland, it is estimated that the majority of deaths among non-smokers caused by SHS occur among women.[9] The scientific evidence now clearly shows that comprehensive smokefree legislation is an essential part of tobacco control and should be adopted by countries around the world.

Our drive to tackle inequalities is integral to our structure, processes and outputs. We recruited nurses from a variety of nursing backgrounds and key Maori and Pacific Island nurses involved with national smokefree work, national nursing associations and academic institutions to sit on our advisory panel and steering group. They provide guidance and practical advice as we strategise and create action plans tailored to the needs of different groups of nurses serving different populations.

To determine if we are effective, we have incorporated an ongoing process evaluation into our action plan. Our national survey of nurses is our baseline[1]. We will repeat this in 2012, three years after we received funding. Nurses have the potential to make a significant difference in smoking rates. There are some 45,000 nurses in Aotearoa/New Zealand, one for every 14 smokers.[1] Effective brief advice takes as little as 30 seconds.[3] It doesn't seem a lot to ask, yet a change in everyday practice means many nurses must re-vision themselves as effective public and personal health change agents. We have faith in our profession and faith in our ability to be catalysts for this change.

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Ireland

By: Dr Angie Brown, Medical Director Irish Heart Foundation

Cardiovascular disease (CVD) remains the leading cause of death in Ireland for both men and women. In 2008, nearly 5,000 Irish women died from CVD,[1] however unfortunately, as in other countries, most women remain unaware of their risk for this major killer.

Irish women believe breast cancer to be a bigger health risk. Only 18% of women correctly identified heart disease as the main cause of female death while 60% of those surveyed thought it to be breast cancer. [2] In fact, there were 731 female deaths in Ireland from breast cancer in 2008 1 compared to 5000 deaths from CVD. In a 2008 survey 33% of women also believed heart disease to be an exclusively "male disease." Media awareness and public health campaigns promoting mammography screening may be causing this misperception.[2]

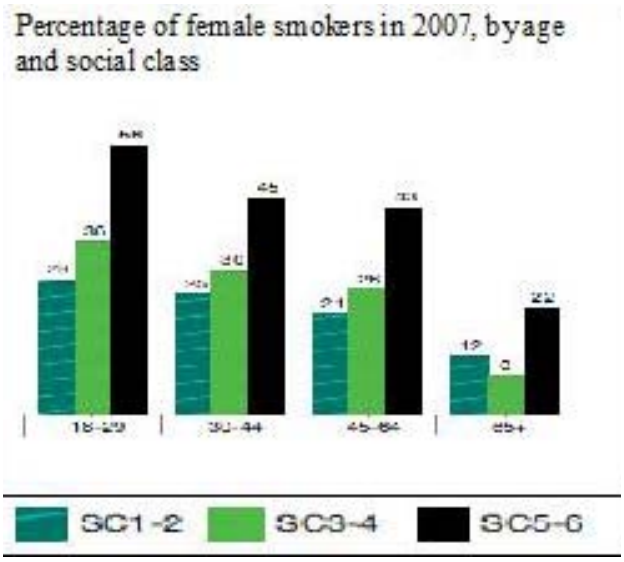
It has been estimated that there will be a sharp rise in the prevalence of CVD in the next 10 years because of increasing levels of obesity, diabetes and hypertension, as well as the persistently high levels of smoking, particularly in young teenage women in lower socioeconomic groups, (Fig 1). Heart disease in men and women in Ireland is expected to rise by 50%, stroke by 48%, high blood pressure by 40%, and diabetes (Type 1 and Type 2) by 62%.[3]

The prevalence of cardiovascular risk factors is of major concern to the Irish Heart Foundation. The national Survey of Lifestyle, Attitudes and Nutrition found that 32% of women have a BMI greater than 30kg/m2, 86% have cholesterol greater than or equal to 5 mmols and 53% have blood pressure greater than 140/90 mmHG.[4]

The Irish Heart Foundation's annual month-long awareness and educational campaign, scheduled for September 2010, aims to increase awareness of the high morbidity and mortality from CVD in women. Campaign materials will focus on specific issues for women, including recognition of signs and symptoms of heart attack and stroke, healthy lifestyle behaviours and appropriate management of high blood pressure and high cholesterol. Women will be targeted through direct mail, in their workplaces, via the media and public lectures and through other events in partnership with women's and community groups such as Active Retirement.

Another issue identified in the recent report, *"Red Alert for Women's Hearts,"*[5] was the under-representation of women in CVD research. There are major sex and gender differences in the the clinical presentation of cardiovascular diseases and women are clearly underrepresented in cardiovascular research, in particular on cholesterol lowering therapy, ischemic heart disease and heart failure. We hope that the development of new recommendations will change this in future cardiovascular research.

Figure 1



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Perceived facilitators & barriers in quitting smoking among female smokers with cardiac diseases in Hong Kong

By Sophia SC Chan[1], Doris YP Leung[1], and Tai-hing Lam[2]

Smoking is very common in Asian countries and the tobacco epidemic in China and this region is in the earlier stage than in Western countries. China has the largest number of smokers in the world, and most smokers have no or low motivation to quit. Smoking in women is a well-recognized public health problem. Although Hong Kong, the most modernized city in China, had a low smoking prevalence of 3.6% in women in 2008, the rate is increasing in younger women especially in teenagers.[1]

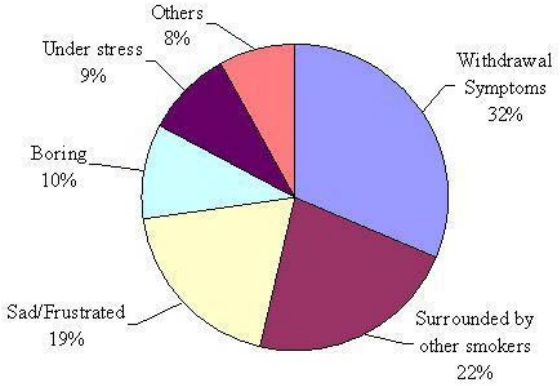
Heart disease is the leading cause of death in Hong Kong; it killed 6,777 people in 2008. Cardio-vascular disease is the number one killer in China.2 Smoking is a major cause of recurrent events in patients with coronary heart disease. Quitting smoking after a coronary event reduces cardiovascular mortality by 35-45% after 5 years, and nonfatal myocardial infarction occurs less often in smokers who quit after their first cardiac event.[3-4] Smoking cessation is highly cost-effective as a secondary prevention strategy for cardiovascular diseases.[5]

Healthy women who smoke face an increased risk of cardiovascular disease.[6] The situation is even worse for women who have a history of heart disease but continue to smoke. However, studies show that as compared to smoking men, smoking women in general have greater difficulty in quitting smoking, and are less responsive to nicotine replacement therapy.[7-9] Yet there is a dearth of information about potential facilitators and barriers in quitting among Chinese female smokers with heart disease.

We conducted a randomized controlled trial (RCT) on the effectiveness of a stage-matched smoking cessation intervention to help cardiac patients to quit. All Chinese speaking patients who attended the cardiac outpatient clinics of ten acute hospitals in Hong Kong and had smoked at least one cigarette daily in the seven days prior to clinic attendance were invited to participate in the trial from March 2002 to Dec 2004. Subjects were asked to complete a baseline survey prior to randomization.

A total of 1860 subjects participated in the baseline survey, of which 167 (9%) were female with a mean age of 55 years (SD = 19.7) and 59% (n = 99) of these women had a history of heart disease longer than two years. On average, they started regular daily smoking at the age of 21 (SD = 9.6), had been smoking for 33 years (SD = 20.8), and smoked 15 cigarettes per day. Over half (69%) had low nicotine dependency, and 73% had past quit attempt(s). Most of them (71%) were not ready to quit smoking (pre-contemplation stage) and only 7% were prepared to quit within 30 days. Regarding the most difficult situation experienced during quitting, 32% reported 'Dealing with withdrawal symptoms', 22% rated 'Surrounded by other smokers', 19% reported 'Feeling sad or frustrated', 10% expressed 'Boring' and 9% expressed 'Under stress' (Fig 1). When asked about the perceived benefits of quitting from a list of 14 facilitators, the six benefits selected by over 70% of the female cardiac patients were 'Reduce

Figure 1. The most difficult situation to face while quitting among the female smokers with cardiac disease (n=167).



smoking related diseases' (86%), 'Reduce body odour resulting from smoking' (78%), 'Save money' (77%), 'Reduce health hazard imposed on others due to secondhand second' (75%), 'Reduce coughing' (74%), and 'Increase lung capacity' (71%) (Fig 2). On a scale of 0-100 (a higher score indicates more difficult), female smokers with a history of cardiac diseases longer than two years perceived more difficulty in quitting smoking (mean = 64.6, SD = 24.7) than those with a history shorter than 2 years (mean = 56.3, SD = 25.5) (P = 0.03 by Mann-Whitney test).

Nearly three quarters of the smoking women were not prepared to stop smoking even though over 70% of them knew the health benefits of quitting such as reducing smoking-related diseases, increasing lung capacity, and reducing secondhand smoke exposure for other people. The results show that highlighting the health hazards of smoking alone would not be strong enough to motivate them to quit. While many female smokers had a low level of nicotine dependency, one-third reported that dealing with withdrawal symptoms was the most important barrier to quitting. The findings suggest that these female smokers with cardiac diseases, similar to other female smokers, were more likely to smoke for psychological reasons rather than because of nicotine dependence. Cognitive and behavioral skill modifications to deal with their emotional distress and counteract smoking-related psychological factors would be important elements in assisting them to quit. A new initiative to strengthen tobacco dependency treatment for chronic disease patients, such as those with cardiovascular diseases, and with a special gender-specific focus, is urgently needed in Hong Kong as well as in the rest of the world.

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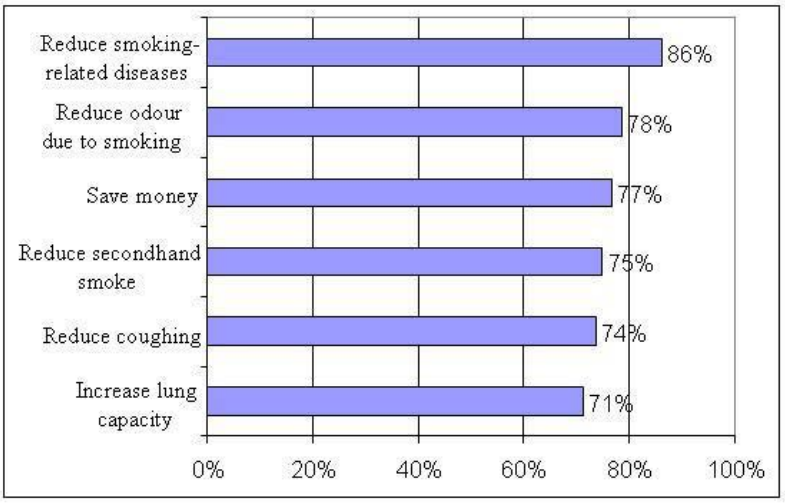
Figure 2. Perceived facilitators in quitting smoking among the female smokers with cardiac disease (n=167)



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Women's Heart Health– What is the Evidence on Prevention, Treatment and Policy?

By: Natalie Hemsing, Lorraine Greaves and Karin Humphries

While heart disease has historically been viewed as a man's disease, the effects of risk factors such as smoking and obesity are increasingly evident among women, increasing their risk for heart disease.[1-4] Cardiovascular disease is now the leading cause of death for women in Canada and many other countries around the world. New and emerging research shows that women have specific sex and gender-based issues related to cardiovascular disease and exhibit different patterns and presentation of cardiovascular risk factors and diseases, such as the relatively later development of heart disease and higher incidence of stroke fatalities among older women.[5] In light of this emerging science, we conducted a literature review and synthesis of the evidence on prevention, treatment and policy responses to women's heart health issues.

Risk Factors: Preventing heart disease and promoting heart health for women requires improving and responding to a variety of risk factors at various levels. Pre-disposing risk factors, such as those connected to intrauterine environment and family history, are pre-programmed either in utero or during development. Clinical risk factors include those that can be measured and increase a woman's risk of developing disease such as: sleep duration, migraine, lipid levels, and levels of C-reactive protein (CRP). Lastly, individual-level factors include those that can be influenced by behavior such as diet, obesity, smoking status, psychosocial factors and health literacy.

Some risk factors have been shown to have a different effect on women's heart health as compared to men. Women with a family history of CVD are at greater risk compared to men,[6-8] women experience greater changes in lipid profiles with age[6, 9-11] and experience more pronounced health risks from smoking. For example, more than half of myocardial infarctions (MI), or heart attacks, in middle-aged women are caused by smoking.[12] Relative risk for MI is approximately 50% higher in female smokers compared with male smokers and all cause mortality.[13] These findings are problematic in light of the fact that young women's smoking rates are more often equal to or surpassing boys, contrary to past trends.[14] Additionally, secondhand smoke exposure has also been shown to increase women's risk of heart disease,[15] and women are more often exposed to others' secondhand smoke.[16]

Risk factors often overlap and intersect in women's lives and are shaped by social, economic and historical processes that enhance or hinder women's cardiovascular health. For example, sex and gender-biased research and the historical framing of heart disease as a man's disease have contributed to the lack of general awareness of women's risk for heart disease.[17-18] Some evidence also indicates that women tend to value others' health above their own, which prevents some women and their families from acknowledging early signs of disease. This has been referred to as an "otherness orientation."[18-19]

Different sub-populations of women have also been shown to experience different risk, and therefore have unique needs regarding heart health promotion and disease prevention. In particular, non-white ethnic minority, low-income, and rural dwelling women in Canada and the United States are among those who have greater risk and encounter more barriers to preventive health.[20] Non-white women also report less awareness of heart disease, underestimate their own risk, and report problematic patient-provider relationships.[17-18, 21-22] Lack of access to health care, healthy food options, exercise facilities and social support networks are significant barriers for many women. These intersecting social, economic and historical factors shape women's risk for heart disease, and their levels of health literacy and access to preventive care.

Diagnosis and Treatment: There are also diagnosis and treatment issues affecting the management and outcomes of cardiovascular disease for women. The evidence suggests that in comparison to men, women delay seeking treatment and present with different symptoms.[23-24] For example, women are more likely to present with non-specific chest pain and atypical symptoms (including: mid back pain, nausea, vomiting, dyspnea, palpitations and indigestion) than men.[25-29] There are also gender differences in diagnostic testing and evidence indicates that women are less likely to be referred for invasive testing.[30] Sex differences also exist in the effects of pharmacological treatments. For example, the use of aspirin for primary prevention of cardiovascular disease has different effects in women compared to men. In women it reduces the risk of stroke; in men it reduces the risk of myocardial infarction.[31]

Once treated, women are less likely to attend cardiac rehabilitation programs, have lower adherence and higher dropout rates, and have poorer functional recovery and more depression than men after coronary artery bypass surgery (CABG),[32-33] even though they experience similar or greater benefits than men who participate in rehabilitation programs. Psychosocial stress such as multiple roles and presence of social support also influence women's recovery.[23] Many women do not make changes to their health behaviours because of a lack of resources, poor access to health care, lack of social support and depression or anxiety.[34]

Policy factors: Policy issues have the potential to influence women's heart health at all levels and in a variety of ways. For example, broad social and economic policies can affect risk factors directly and indirectly, can address (or not) the determinants of health and affect a range of environmental characteristics. Health system policies can affect resource allocation and models of care, and impact professional education. Research funding agency policies can affect quality of evidence, the inclusion of women and sub groups, and the funding, monitoring and publication of useful analyses.

Policy can operate at all levels -- systemic, institutional, community and individual -- and have a direct affect on women's heart health. Systemic level issues include environmental and cultural barriers to healthy living, socioeconomic factors and inequality, and enhanced research policies and practices that incorporate a gender and diversity lens. Institutional and community level issues include community programs, and health care systems and organizations that affect access and quality of care for women. Lastly, individual level issues include: policies and programs addressing risk-reduction and health behaviours, creating tailored and multi-component programs for women, improving health literacy, creating interventions for diverse populations, and improving provider communication and support.

Considerations for Action:

As we know, women's heart disease is a multi-factored problem, and heart health promotion for women is a challenge on individual, clinical and policy levels. Despite this, the evidence on all aspects of sex, gender and women's heart health is still emergent, but continuously evolving.

Nevertheless, actions at the policy and program levels can be taken, such as initiatives on heart health promotion and prevention of disease. Specific attention can be paid to improvement in outcomes for sub-populations at risk, and, in some cases, attention can be paid to tailoring programs and practices to the needs of particular groups of women. Overall, it is important to pursue multi-factored programs and policies, reflecting the nature of women's heart health and disease. In all cases, it is critical to evaluate the effectiveness of activities in order to contribute to the emerging knowledge base on how best to address women's heart health.

Based on our review, we identify a number of key messages and areas where action should be considered:

1. Heart health promotion and prevention of disease

The greatest health benefits and most cost effective solutions come from changes at the prevention level. The most important risk factors to be addressed include: smoking, physical activity, healthy diet and weight management. Because of the complex nature of women's health, change at the individual level requires change at the policy level to address gender and diversity based differences in risk and access to health and health care.

2. Sub-populations at risk

The review reveals that there are identifiable sub-populations of women who face increased risk for heart disease, such as older women, low income women, Aboriginal women, South Asian women, and women with a mental illness or addiction, at least in Canada. There is reason to believe that there will be and are varied sub-populations of women at higher risk, dependent on the population. The inverse gradient of CVD and socioeconomic status (SES), which has been measured across numerous countries, is especially pertinent for women and particular groups of women who are more likely to live in poverty. These sub-populations of women stand the most to benefit from research, programs and policies which address barriers and seek to improve their heart health.

3. Tailoring of programs and practices

Evidence from this review reveals that there is not a proven universal intervention that can be applied to all women. Instead, programs likely need to be tailored to women and sub-populations of women. There are a number of factors which are important to consider when tailoring, including changes in women's health through the life-course, addressing health literacy, improving social support and addressing psychosocial factors, and developing women-centred approaches to diet, physical activity and smoking interventions. For secondary prevention (once women are already experiencing heart issues), the greatest strides for improving women's heart health can be made in the form of eliminating gender biases in diagnosis, testing and care. Improved clinical practices that reflect the integration of sex, gender and a range of diversity issues and social determinants into diagnosis and treatment are key to improving women's treatment and care. Finally, research, policy and program development for cardiovascular screening, diagnostic and treatment for women, need to account for these factors in order to provide effective secondary prevention and treatment options for women.

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It is clear that more comprehensive and multi-component research studies, policies and programs are required in order to adequately address the complex nature of women's heart health. As shown in this review, the prevention/promotion literature has focused largely on individual change, while the treatment literature has focused on intervention effectiveness. Multi-factored programs and policies are needed to address the broader social, economic and environmental barriers, research policies and practices, health care systems and organizations, in addition to the individual level health behaviours of women and girls.

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Next Steps:

British Columbia Women's Hospital and Health Centre, in collaboration with the Heart & Stroke Foundation of British Columbia, are developing a Primary Prevention Strategy for women's cardiovascular disease for British Columbia. To support this initiative, an updated literature review is currently being conducted, examining risk factors, risk factor prevention and heart health intervention projects, using a gender lens. This work is supported by the Centres for Population and Public Health of the Provincial Health Services Authority (PHSA).

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Woman's Heart Programme – *A healthy heart for a woman's whole life*

Each year in Finland vascular diseases claim the lives of 11 000 women, with cardiovascular disease causing approximately 6000 deaths and stroke 3000 deaths. Vascular diseases kill twice as many women as all cancers combined. In Finland, breast cancer kills around 800 women each year.

The identification and control of cardiovascular risk factors represent the basis for the development of a preventive strategy. Unfortunately, women are less likely than men to identify their risk factors and to participate in screening programmes. A 2005 survey looked at the level of awareness in Finnish women of the fact that cardiovascular disease is the number one killer of Finnish women. 53 per cent of women were aware of that information. Women also are not sufficiently aware of their own risks for developing vascular diseases and health care personnel did not pay sufficient attention to the problem.

Since 2002, the goal of the Finnish Heart Association's Woman's Heart Programme is a healthy heart for a woman's whole life. The Programme wants to increase awareness among women and health professionals of the special aspects of woman's vascular diseases and to empower women to take their heart health seriously and personally.

The Woman's Heart Programme has three parts: a Health Education Programme for all women, a Training and Education Programme for health professionals, and a Woman's Heart PuNainen (Go Red for Women) Campaign targeted at younger women. The Health Education Programme offers a toolkit for the Woman's Heart Peer Group (non-professionals), Woman's Heart public events, education, educational materials, a website (www.naisensydan.fi) and other materials including a women's Quit Smoking booklet.

Mortality from cardiovascular diseases is higher for women who smoke than for men who smoke, even after adjustment for the other risk factors. It has been shown that women metabolize nicotine faster than men, especially if they are taking oral contraceptives. Smoking and oral contraceptives have a synergistic effect on the risk of cardiovascular diseases.

The PuNainen Campaign, started in 2007, is aimed particularly at women ages 30 to 45 who live busy lives and seem to always be running on a treadmill. It is part of the World Heart Federation's international Go Red for Women Campaign. The name PuNainen is a combination of the Finnish words punainen (red) and nainen (woman). The Red Dress logo is a national symbol for women's heart health in Finland. PuNainen-action provides a whole new way of giving thought to the heart health. The message is: Even if you are on a treadmill, there is a door. Stop now and take some time to listen to your heart and what it wants, empower yourself and make your heart health an important issue for you. The website, www.punainen.fi, helps women find the door. PuNainen is also on Facebook (search: punainen).

The first National Wear Red Day was on 24 September 2009. Wear Red Day promotes the Red Dress as the national symbol for women and heart disease awareness, and unites women and men across the country in the national movement to give women a personal and urgent wakeup call about their risk of heart disease.

COSH Aims at Women to Launch Its Tobacco Control Programme This Year

The International Network of Women Against Tobacco (INWAT) Newsletter Sponsored by COSH

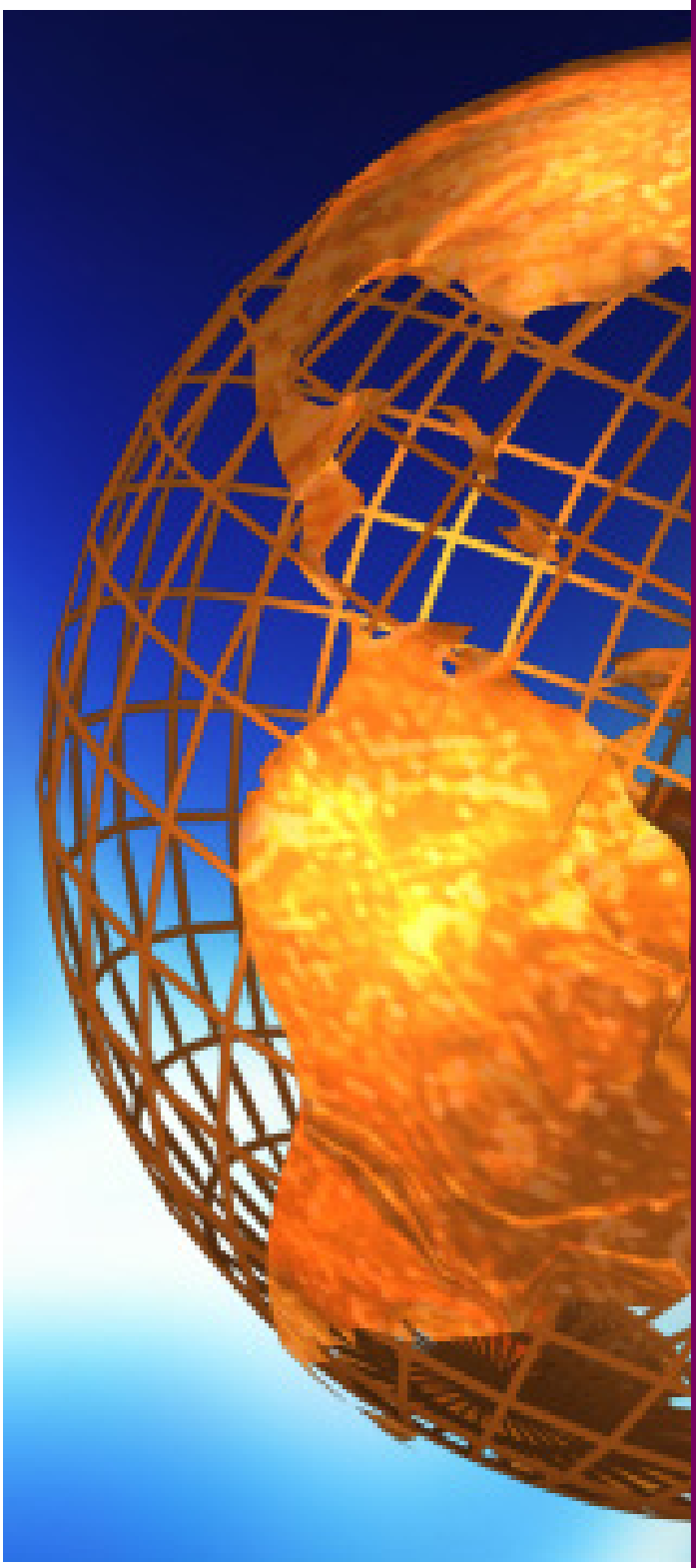
The Hong Kong Council on Smoking and Health (COSH) is a statutory body established in 1987 to protect and improve the health of the community through a combination of strategies and education and public awareness programmes.

This year, the World Health Organization (WHO) has designated "Gender and tobacco with an emphasis on marketing to women" as the theme for World No Tobacco Day 2010. Controlling the epidemic of tobacco among women is an important part of any comprehensive tobacco control strategy. To support WHO's theme, COSH is planning to draw attention to the harmful effects of tobacco marketing towards women and girls by conducting a major public awareness campaign called "Smoke-free Women," which includes a 30-second TV commercial, poster advertising campaign, a radio series programme, a survey on women's smoking patterns and a smoking cessation contest.

COSH Chairman, Ms. Lisa Lau, MH, JP, expressed her concern about women smoking, "Women comprise about 20% of the world's more than 1 billion smokers, and the prevalence is about 3.6% in Hong Kong. Women are a major target of the tobacco industry, therefore we are launching a new public awareness programme this year to focus attention on the importance of controlling the epidemic of tobacco use among women. Protecting and promoting the health of women is crucial to health and development – not only for the citizens of today but also for future generations."

COSH launched a territory-wide Quit to Win Smoking Cessation Contest in 2009 that was well-received and resulted in more than 1000 smokers quitting. The Contest will continue this year as a territory-wide campaign targeting both genders, encouraging more smokers to kick the habit and soliciting public support for the government's smoke-free policy. The Contest is conducted at the community level and rewards smokers who quit with prizes. It will be promoted through local organizations, and via newspapers, the Internet and a TV station. The Contest also involves collaboration with a professional institute that provides smoking cessation support and services to participating smokers, as well as carrying out a study.

Tobacco use could kill one billion people during this century. By responding to WHO's call, governments can reduce the toll of fatal and crippling heart attacks, strokes, cancers and respiratory diseases that have become increasingly prevalent among women. In Hong Kong, tobacco use takes 20 lives every day; COSH is committed to fight against it.



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