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Sifting the evidence:

# Gender and tobacco control

**WHO Library Cataloguing-in-Publication Data:**

**Sifting the evidence: gender and tobacco control.**

1.Smoking - adverse effects. 2.Smoking - prevention and control. 3.Public policy. 4.Sex factors. I.World Health Organization. II.Title.

**ISBN 978 92 4 159540 7** **(NLM classification: QV 137)**

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Printed in Switzerland

# Sifting the evidence: Gender and tobacco control

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**Acknowledgements**

This paper was commissioned as a background paper for the WHO/Research for International Tobacco Control (RITC) meeting on the development of policy recommendations for gender-responsive tobacco control, 28-30 November 2005, at the International Development Research Center (IDRC), Ottawa, Canada.

WHO would like to thank Dr Lorraine Greaves, the Executive Director of the British Columbia Centre of Excellence for Women's Health (BCCEWH) Vancouver, Canada, the principal writer. The research assistance provided to Dr Greaves by Ms Natasha Jategaonkar, Ms Lucy McCullough, Ms Pamela Verma and Ms Ethel Tungohan, all of BCCEWH, is also gratefully acknowledged.

Gratitude is further extended to the following reviewers of various drafts of the paper: Dr Linda Waverley and Ms Rosemary Kennedy of Research for International Tobacco Control (RITC/IDRC), Ottawa, Canada; Ms Shelly Abdool, Dr Adepeju Olukoya and Dr Felicitas Bergström of the Department of Gender, Women & Health, WHO, Geneva; Dr Yumiko Mochizuki-Kobayashi, Dr Heide Richter-Airijoki, Dr Armando Peruga and Ms Annemieke Brands of the Tobacco Free Initiative, WHO, Geneva; and the participants of the WHO/RITC meeting on the development of policy recommendations for gender-responsive tobacco control, 28-30 November 2005, RITC/IDRC, Ottawa, Canada.

We wish to thank Teresa Lander for editorial support, Mr Bernard Sauser-Hall (EKZE) for the layout and design, and Mrs MiriamJoy Aryee-Quansah for additional assistance. We also would like to thank Ms Carla Salas-Rojas of the Department of Gender, Women & Health and Dr Luminita Sanda, Smita Trivedi and Gemma Vestal of the Tobacco Free Initiative for their technical support in the finalization of this paper.

The examples provided in this publication include experiences of organizations beyond WHO. This publication does not provide official WHO guidance, nor does it endorse one approach over another. Rather, the document presents various examples of innovative approaches for gender-responsive tobacco control.

## Contents

## Executive summary

Both the history of the tobacco epidemic and the shape of its current progression across low-income and middle-income countries have a gender perspective. This paper examines the gendered aspects of tobacco use and the gendered responses to efforts to prevent or reduce tobacco use across the world. Despite the influence of gender, there has been little development or examination of programmes and policies to address differences between and among women and men throughout the four stages of the tobacco epidemic. The rationale for doing so is clear – the tobacco industry itself has exploited gendered imagery and issues across cultures for decades. It is crucial to prepare more effectively for different patterns of tobacco use in the 21st century among girls, boys, women and men by constructing gendered responses. This paper makes suggestions for creating a gendered global response to tobacco use, with particular reference to the opportunities presented by the WHO Framework Convention on Tobacco Control and other relevant treaties and agreements.

## A. Sex, gender and tobacco consumption: prevalence, patterns and consequences

### The global picture

There are currently 1.3 billion adult smokers (over 15 years old) in the world, out of a population of 6 billion people, a figure expected to rise to 1.7 billion between 2020-2025 (Guindon & Boisclair, 2003). Globally, about 80% of the world's smokers live in low-income and middle-income countries (Mathers & Loncar, 2006).

Currently, tobacco use kills more than 5 million people each year, a figure expected to rise to 8.3 million by 2030 (Mathers & Loncar, 2006). This is a more dire prediction than that made by Peto and Lopez (2001), which estimated that the number of deaths would double by 2030. Eighty per cent of these deaths will be in low and middle income countries (Mathers & Loncar, 2006), as tobacco use is rapidly taking an increased toll in less developed countries of the world.

These trends are gendered, as approximately 250 million women and 1 billion men are daily smokers (WHO, 2002). While male rates have peaked and are in slow decline, female rates are still rising. The prediction is that, while 12% of the female population currently smoke, this will rise to 20% by 2025 (Samet & Yoon, 2001). These figures do not generally include other forms of tobacco use, such as chewing tobacco, waterpipes, bidis, chutta, betel nut, snus or snuff, which also often display gendered and region-specific patterns and cause largely unaccounted morbidity and mortality.

### Four stages of the tobacco epidemic

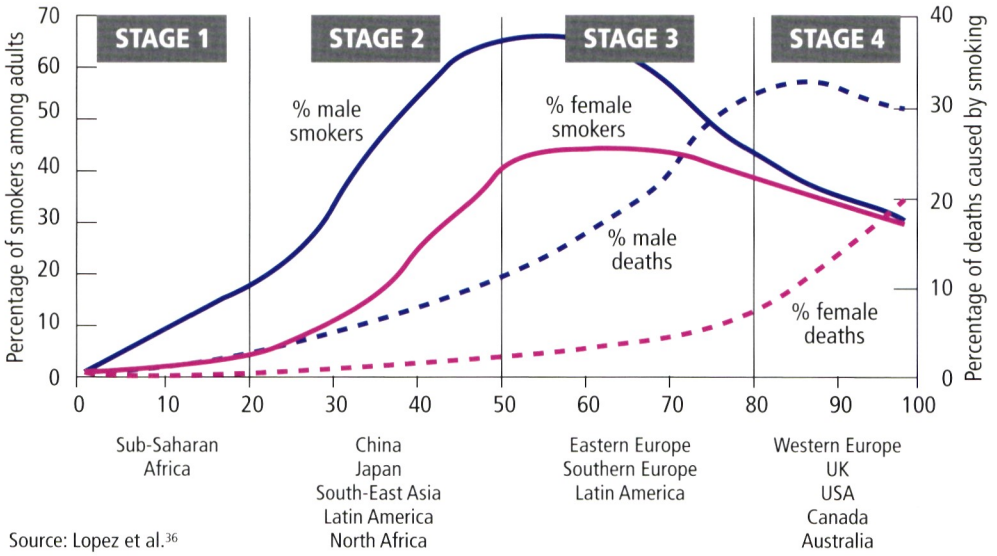
Lopez et al. (1994) created a model to explain the progression of tobacco use through populations and countries. The four stage model (figure1) accounts for the gendered patterns of smoking throughout the last century. In stage 1, smoking rates are low for both men and women, but cigarettes are increasing in popularity among men. In stage 2, countries experience a sharp increase in the prevalence of smoking among men, while women gradually begin smoking as well. In stage 3, men's rates of smoking have peaked and are starting to decline, and women's smoking begins to decrease, but at a much slower rate. In the stage 4, the decline in women's and men's smoking rates continues, but the mortality due to tobacco is generally increasing among women, due to the delay of many of tobacco's health effects. These four stages of the tobacco epidemic differentiate between male and female rates and illustrate clearly that women generally begin smoking later than men, men's rates reduce first and subsequent male and female rates and trends of tobacco related disease and death reflect this.

Despite considerable prevention, intervention, policy development and research over the past 55 years, current predictions indicate a general repetition of these patterns in low- income and middle- income countries. Underpinning this model is the notion of cultural diffusion, which describes social processes in the acquisition of new behaviours and attitudes across a population and which can be applied to tobacco use. The four stage model clearly acknowledges and illustrates the importance of sex-differentiated trends, which underpins the need for both, sex-differentiated surveillance and gender- sensitive research, prevention, intervention and policy. Taken together, the trends give rise to calls for gender-based analysis of tobacco use and response to policy.

### Sex, gender and prevalence

Some 250 million women are daily smokers, with many more women (especially in South Asia) using tobacco products such as chewing tobacco (Mackay & Eriksen, 2002:27). The trends of female smoking uptake have not yet peaked in the developed world represented in the graph. In contrast, 1 billion men are daily

**Figure 1: Four stages of the tobacco epidemic**




Source: Lopez et al.[36]

smokers, 35% of males in developed countries and 50% of men in developing countries (Mackay & Ericksen, 2002: 25), reflecting the fact that male rates have peaked in the developed world.

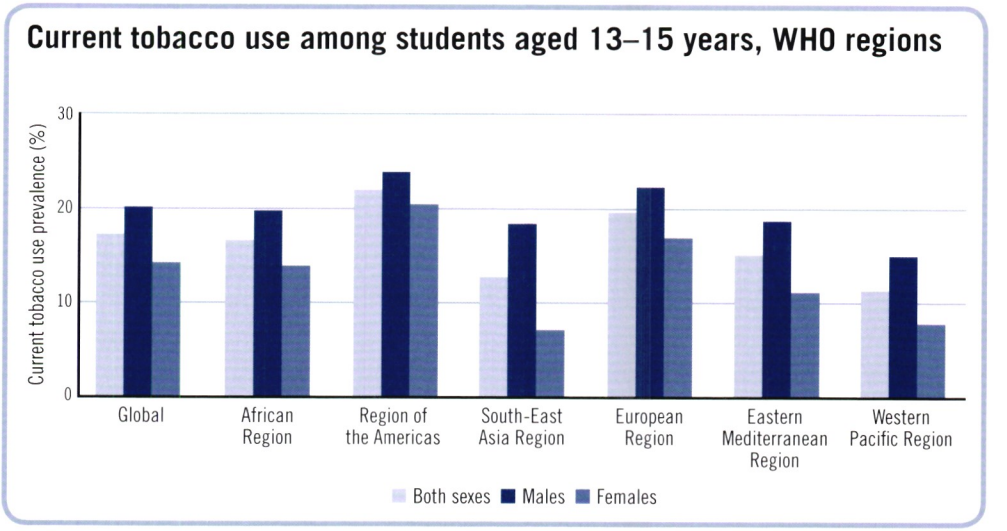
At a population level, male uptake generally occurs sooner than female uptake in most countries, coincident with higher socioeconomic status being a predictor of initial uptake and social norms that include smoking as a rite of passage for boys. The predictions for the spread of female tobacco use indicate that by 2025, 20% of the world's women will be smokers, compared with the current 12% (Samet & Yoon, 2001). These sex - specific patterns indicate the need and potential for global leadership regarding sex, gender and tobacco.

Specific regions of the world are of particular concern because of their enormous population and their position at an early stage of the tobacco epidemic (Neufeld et al., 2005; Shoba & Vaite, 2002). China, for example, has 300 million male smokers, more than all the current female smokers in the world. Given the trends of later female uptake, these numbers will increase markedly in the later part of the 21st century unless there is appropriate and timely intervention.

Gender- based differences also exists for children and youth, whose tobacco use patterns may determine the shape of the epidemic for the next several decades (*see* Figure 2 for current rates). The Global Youth Tobacco Survey canvassed 400 000 students aged 13-15 in all WHO regions. There are fewer significant gender differences in smoking as time goes by, indicating that the gender gap appears to be closing and the future of tobacco epidemic among women may eventually involve more than the current 12% of the world's female population (Global Youth Tobacco Survey collaborating Group, 2003).

Similarly, the rate of use of tobacco products other than cigarettes was equal to or greater than the use of cigarettes, with no significant gender differences except in the Eastern Mediterranean Region. This latter finding suggests that more attention should be paid to prevention and interventions associated with other tobacco products, and that research and policy development should be increased accordingly. The authors of the survey indicate that girl-specific programmes should be instituted to counteract tobacco industry initiatives aimed at girls.

**Figure 2: Risk factor transition: high prevalence of tobacco use among youth worldwide**




(Source: Warren CW et al, 2006[3])

## The tobacco industry and gender

The transnational tobacco industry has created and maintained the market for tobacco across the world. Over the past century, the development, promotion and marketing of tobacco products has involved gender-specific, ethnocultural and population-specific efforts and campaigns, including groups as diverse as blue-collar workers, Muslims, gays and lesbians.

Gender-specific marketing and product development have evolved over the 20th century, utilizing different themes each decade and reflecting the cultural and political view of gender at each point (Greaves, 1996; Amos & Haglund, 2000). Historically, both male and female stereotyping and imagery have been, and continue to be used by the tobacco industry, with masculine images of strength, freedom and ruggedness prevailing in the early stages of establishing demand in a culture or country. Images of women evolved over time in the 20th century, from associating women's smoking with independence, to glamour, to sexual attractiveness. More recently, gendered marketing, messaging and imagery linked with health, upward mobility, Western lifestyles and positive well-being have been used in low-income and middle-income countries by transnational tobacco firms to feed the spread of tobacco use. In Stage 4 countries, marketing and messaging is now often more focused on defending smokers' rights and spaces and characterizing smoking as a time for individual relaxation and reward, despite the social forces defining it otherwise.

These methods mean that large, undeveloped markets are identified and segmented by gender, and products developed and promoted to reflect country, culture, class and gender-specific aspirations connected with upward mobility, sophistication and modernization. Within developed markets, the strategy is focused on not losing market share, exploiting vulnerable subgroups, recruiting young people and maintaining adult brand allegiance.

Globalization of markets, product diversification, trade and communications accelerate these trends and may enable a faster and more com-

prehensive development and exploitation of all types of markets. This will have an impact on the speed and magnitude of the spread of the tobacco epidemic in male and female populations across the globe, as well as the speed of the transitions between stages of the tobacco epidemic within countries.

The largest untapped market for transnational tobacco companies is the female market in low-income and middle-income countries. According to the Global Youth Tobacco Survey (Global Youth Tobacco Survey Collaborating Group, 2003), gender differences in uptake are diminishing globally. This is likely to be a direct response to increased gender-targeted advertising in those regions.

## Gender and tobacco use patterns

It is worth differentiating between sex- sensitive or sex- specific approaches and gender specific or gender- sensitive approaches.
The former term could cover two things; first, reflecting biological and physiological responses to use or intervention, and second, reflecting the dichotomous categorization of male and female for programme, policy or data- gathering purposes. The terms "gender- specific" and "gender- sensitive", on the other hand, would reflect social and cultural pressures and practices that affect use or intervention. Often the two are combined in practice.

Years of research either on males or on undifferentiated populations or samples has led to some gaps with respect to the effects of tobacco use on girls and women. In addition, there is some uncertainty about how research done on males or non-sex-differentiated populations can be applied to girls and women. These gaps are slowly being remedied in developed countries, where norms governing research funding are beginning to require sex-sensitive and gender-sensitive research on some topics (for example, research funded by the Canadian Institutes for Health Research in Canada) and inclusion of women, minors and minorities in clinical trials unless exclusion is otherwise justified (for example, research funded by the National Institutes of Health in the United States of America). However, even with such progressive policies, it will take some time to develop a comprehensive body of knowledge regarding both sex differences and gender influences.

A further remedy is to adopt research designs that re-examine existing data based on men and test them with women, and/or to commit all current and future research to including sex-disaggregation of data and consideration of gender. These approaches require collaborative and multidisciplinary research with both biomedical and social-science researchers working together in order fully to understand not only sex differences and gender influences, but also how sex and gender interact to produce differences between female and male tobacco-use patterns. Finally, in research affecting community practices or policy and programme interventions, it is critical to involve community-based researchers and policy developers from the outset in defining country-specific and culture-specific research agendas and designs.

There are several dimensions to understanding the natural history of initiation of tobacco use, its maintenance and, sometimes, relapse patterns. Overriding these is a general measurement problem, as most definitions and measures have not been validated or developed in a sex-sensitive and gender-sensitive framework. Therefore there are research questions regarding sex and gender differences in the development of addiction, nicotine dependence, exposure and biologically based disease and recovery processes. The National Cancer Institute in the United States of America has called for more understanding of both male and female responses to nicotine, using a multidisciplinary approach, research on hormonal variations and responses to pharmaceutical interventions and the effect of social and cultural

factors on subpopulations of smokers (National Cancer Institute, 2004). This report, consistent with many others, recognizes that future successful interventions to reduce the spread of the tobacco epidemic will require a multidisciplinary and multifaceted approach.

Despite the fact that the research and knowledge exist to support concerted action on tobacco use reduction, there is a lack of clarity regarding sex-related and gender-related effects and solutions. In addition, there is little direction or information showing how to approach the issues in different cultural contexts across different levels of development. At the same time, the tobacco industry continues to extend its purview across subpopulations, with a particular interest in girls and women across the globe.

**Initiation**

Approximately 24% of smokers start by age 10 (WHO, 2003a). At the population level, initiation is influenced by education and socioeconomic status: people of higher socioeconomic status usually begin smoking first, and males before females. These patterns support the four-stage model of the diffusion of tobacco use across a population (*see* "Four stages of the tobacco epidemic" above). By Stage 4, the link between socioeconomic status and tobacco use is reversed, with people of low socioeconomic status and disadvantaged groups being most likely to smoke. Generally, girls and women have been extensively targeted in advertising, focusing on themes of social and sexual desirability and independence (United States Surgeon General, 2001:16). Secondly, the accessibility of tobacco affects uptake, with girls less likely to purchase commercially and more likely to acquire tobacco from social sources (Greaves et al., 2004; United States Surgeon General, 2001:454). However, when girls attempt to purchase commercially, they are generally more successful (Greaves et al., 2004).

European research indicates that girls and boys exhibit some different patterns in their reasons for smoking, such as coping with different negative emotions, enhancing friendships or co-consumption of other substances (Lambert et al., 2002). For example, peer approval positively correlates with smoking in girls more than in boys, and rebelliousness and sociability indicate a propensity to smoke in more girls than boys. Aghi et al. reflect that smoking among closest friends is highly correlated with smoking among adolescents (Samet & Yoon, 2001:55).

However, in general, the research on gender differences in susceptibility to initiation is either missing or inconclusive for many psychosocial dimensions of tobacco use, and biological and genetic research investigating sex and gender differences is in its infancy. Of particular importance will be the sex differences regarding responses to nicotine among adolescents and the trajectory of addiction. Specific research into gendered differences in smoking behaviour will be important, further clarifying issues of the apparent lower consumption per day of girls and women, the preferences for different tobacco products between females and males and the differences in inhaling and other aspects of smoking behaviour.

**Maintenance and cessation**

The maintenance of tobacco use is driven by a growing dependence and eventual addiction to nicotine, enhanced by psychological reinforcements. Smoking in women is reinforced by less

nicotine than in men (Perkins et al., 1991). Recent genetic research indicates that there are sex differences in the metabolism of nicotine, which may play a role in the trajectory of addiction, maintenance patterns and responses to cessation interventions (United States Surgeon General, 2000). In addition, women may be less confident than men in their ability to quit, and generally have fewer successful smoking cessation attempts and more relapses than men (Samet & Yoon, 2001:122). Numerous studies have established that women have more difficulty in quitting than men (Osler et al., 1999), and more difficulty in remaining abstinent after quitting (Perkins et al., 1991) and that nicotine replacement therapy may be less efficacious among women than men (Samet & Yoon, 2001). The reasons are largely unclear (Wetter et al., 1999) but may reflect psychosocial reasons such as lone motherhood and the related caring burdens of low income women (Graham & Der, 1999), concerns about weight gain or body image or low education (Osler et al., 1999).

Biological responses to nicotine differ between males and females and possibly between different genetic groups, ethnic or "race" based categories of people. For example, there may be sex differences linked with different responses to nicotine in male and female bodies and interactions for women with hormones related to the menstrual cycle (Perkins et al., 1991).

The transtheoretical model of the stages of change, often applied in order to understand cessation processes, may involve a different process for women compared with men (O'Connor et al., 1996). Clearly, it is being argued that the process of change is different for pregnant women compared with others (Stotts et al., 1996), which may explain high postpartum relapse rates despite high cessation rates during pregnancy (Stotts et al., 2002). However, education also affects the likelihood of cessation. And while recent research on 13,000 older smokers in four developed countries has not been sex-differentiated (Yong et al., 2005) it points to the defences that older smokers have built up regarding cessation. After decades of smoking, "addictive stock" builds up, making cessation more difficult physiologically as well as psychologically.

WHO released a report on smoking cessation and treatment of tobacco dependence in 2003 (WHO, 2003b). It covered many behavioural interventions, as well as numerous pharmacological interventions, and concluded that it is cost-effective to invest in cessation programming and training at the country level. Nonetheless, cessation strategies need to be developed in the context of a comprehensive tobacco policy in order to be effective. Pursuing effective and comprehensive cessation programmes and policies is a critical element in reducing the toll from tobacco. WHO estimates that, if increased cessation results in a 50% reduction in consumption of tobacco, about 180 million deaths could be averted by 2020 (WHO, 2003b:xvi). This projection is compared with a 50% reduction in initiation among youth, which would result in 20 million deaths being averted by 2030 (WHO, 2003b:xvi). This demonstrates the critical importance of pursuing a cessation strategy as part of a comprehensive approach, and its direct benefits in terms of reducing morbidity and mortality.

With a view to improving fetal health. Hence, there has been widespread clinical research and intervention focused on pregnancy, assuming that this would be a good entry point for cessation programmes to address smoking among women in general. Pregnant women often quit using tobacco during pregnancy, but approximately 20%-30% of pregnant women in North America continue to smoke during pregnancy and by one year postpartum approximately 70% have relapsed. Pregnant smokers come under continued scrutiny and are given extraordinary attention in health interventions. Most of this attention is fetus-centred, with little attention to the psychosocial factors behind tobacco use for the women involved. In this way, it has not always contributed to continued cessation (Greaves et al., 2003).

Male-specific tobacco use interventions are much less common, despite the identification of at least two sex-specific tobacco use issues. Tobacco use is a risk factor for erectile dysfunction, although the actual causal basis needs more study (United States Surgeon General, 2004). A variety of tobacco exposures, including both active and passive smoking, are associated with this problem. Both the ingestion of nicotine and the chronic vascular damage caused by smoking appear to contribute to erectile dysfunction in men. Similarly, research has investigated links between sperm quality and smoking, but has yet to pinpoint the actual effect of smoking compared to or in the context of occupational exposures or other confounders (United States Surgeon General, 2004:534). To date, there have been no consistent, widespread public interventions about tobacco use and male fertility, the effects of male tobacco use on conception or the effect of passive smoking on pregnant women and infants.

## Sex, gender and health impacts

There have been several key reports and conferences outlining the gravity of the tobacco and health question for both women and men (United States Surgeon General, 2004). The main consequences of smoking are heart disease and stroke, chest and lung diseases (including lung cancer) and several other cancers. As much health research has traditionally relied upon male standards and symptoms, much initial research and practice in tobacco-related areas have also focused exclusively on males. As they were the first to take up smoking, they were also the first to exhibit the health effects of tobacco use. Hence, some of the more generic reports have often been based on research or clinical practice with men. Generally, both sexes fall victim to the morbidity and mortality associated with the diseases listed above, but there is growing evidence that these diseases and effects also have sex-specific elements. For example, women get lung cancers at lower exposure than men, and adenocarcinomas are more prevalent among women smokers than men, and may result from gendered smoking behaviours (inhaling more deeply) and/or gendered products ("light" cigarettes) that were designed for women (Payne, 2001; INWAT, 1999; Samet & Yoon, 2001; INWAT, 1994; Joossens & Sasco, 1999).

Finally, the effects of tobacco use on the trajectory of lung health, evidenced by diseases such as cancer and chronic obstructive pulmonary disease, are sex-differentiated, with women experiencing different and faster developments of lung disease, starting in adolescence.

There are sex-specific effects on both male and female reproductive systems and capabilities. Additional female health conditions affected by tobacco use include cervical cancer and bone disease and enhanced mortality from breast cancer for women who smoke (Fentiman et al., 2005). The effects of smoking during pregnancy are numerous and well documented, and include difficulties with labour, delivery and breastfeeding, low-birth-weight infants and possible long-term effects on child behaviour and a

propensity to nicotine addiction in later life (see United States Surgeon General, 2004, Chapter 5; United States Surgeon General, 2001:277-307).

Specific effects of smoking on male and female children and adolescents are less well documented. There is evidence that smoking has an effect on children whose bodies are still growing, and may have an effect on the later development of diseases such as breast cancer in women (Band et al., 2002). These direct exposures are often combined with exposures to secondhand smoke. Increasing evidence points to significant effects of exposure to secondhand smoke on all populations. However, there are sex- and gender-specific effects of nonsmokers' exposure to secondhand smoke, from amount of exposure (more women than men), to rates of lung cancer among nonsmokers (more women than men). Hence, in many countries with low smoking rates among women, exposure to male smokers is a women's health issue. In addition, the often gendered roles of caregiving and managing family health are affected by increased morbidity in men and increased family poverty and compromised nutrition due to smoking.

Other forms of tobacco use, such as reverse chutta, bidi smoking, chewing or snuff, contribute to head, neck and oral cancers, in addition to the health effects mentioned above. These types of exposure are often linked with country-specific practices or concentrated in specific regions, such as South Asia or Scandinavia (Greaves, Jategaonkar & Sanchez, 2006). Finally, occupational exposure to nicotine or tobacco in the growing and processing industries often affects women who are involved in the production of tobacco. Women in this industry often experience "green sickness;" the entry of nicotine through the skin, which causes or contributes to a range of health effects such as nausea, fatigue, weakness, headache, abdominal cramps, breathing difficulties and fluctuations in blood pressure and heart rate (Campaign for Tobacco-Free Kids, 2001).

Less direct, but nonetheless important, consequences stem from the effects on family microeconomics of the reduction or diversion of disposable income attributable to tobacco purchases, and the conversion of food production to tobacco production, both of which have an impact on family health and nutrition. In addition, when the health effects of tobacco use emerge, the costs associated with health care, chronic disease and premature loss of income affect the whole family. In these cases, depending upon the sex-specific rates and patterns of smoking, the health effects will be sex-specific as well. For example, if male smokers are more prevalent (in a Stage 1-2 country, for example), the nutrition-related and economics-related health consequences may be the issues for women and children and the tobacco-related health consequences the major issues for males.

## B. Gender-responsive tobacco control interventions

A number of key reports and conferences outline the gravity of the tobacco and health issue for women (United States Surgeon General, 2001; INWAT, 1999; Samet & Yoon, 2001; INWAT, 1994; Joossens & Sasco, 1999). As mentioned above, previous generic reports have often been based on research or practice with men, reflecting men's earlier uptake of tobacco and a general male bias in science. In the 1980s, it was pointed out by women researchers that issues related to women and smoking were not limited to pregnancy and fetal health, and that dedicated attention needed to be paid to the effects of tobacco use, marketing and prevention and cessation interventions on women (Jacobson, 1981; 1986).

More recently, researchers have begun to focus on the gendered effects of policy, particularly on women (INWAT Europe, 1999; Greaves & Barr, 2000; Horne et al., 1999) and on vulner-

able populations (Greaves et al., 2004). The historically unequal attention paid to women and tobacco is continuing to be remedied as constantly emerging sex (biological and physiological) and gender (social, economic and cultural) differences are noted in research and practice, and questions are raised about sex-sensitive and gender-sensitive responses to policy (Greaves et al., 2006; Greaves & Jategaonkar, 2006).

Most of the analysis pertaining to gender and tobacco use and policy has been focused on women as a means of redressing the relative lack of attention in research and the lack of comprehensiveness in addressing women's health. However, the application of a gender-based analysis has often served to illuminate the situation of men and boys as well, if not explicitly, then indirectly. In some cases, sex-based and gender-based comparisons are made to sift out the effects on women, thus identifying male patterns of use, response and experiences. In other cases, identifying the gendered aspects of marketing and intervention has led to greater understanding of male experiences of smoking and responses to promotion and intervention.

Integrating gender into policy and programme responses to tobacco use is a critical issue. Much of the past work in tobacco control has been gender-blind, ignoring the impact of gender, and indeed androcentric, being based on male experiences, trends and effects.

Christofides (2001:166) adopts Kabeer's (1994) typology to discuss gendered policy with respect to tobacco use. In this schema, gender-neutral policies are those that aim to equalize as a result of their application, and Christofides suggests that this approach would lead to customized planning and policy-making in response to age, sex and socioeconomic-status-differentiated trends and rates (Christofides, 2001:166). Gender-specific policies advocate specifically on behalf of women, in order to redress past neglect, according to this approach. Gender-redistributive approaches to tobacco policy development would serve the dual goals of reallocating resources to previously neglected policy areas, and increasing the involvement of neglected groups (women, smokers, poor people) in the development of policy and planning.

While this is a useful model, it is important to note that there is no uniform use of terms, and indeed some may interpret a gender-neutral policy as "having no differentiated effects" rather than being aimed at eliminating differences. In general, though, any policy or plan taking sex and/or gender into account is often mistakenly referred to as "gender-sensitive", whether it merely counts by sex category, addresses the dynamic and relational concept of gender, or moves to consider the interactions of the two concepts as they address elements of tobacco use and responses to policy.

Gender mainstreaming is an additional concept, referring to the horizontal movement of gendering research, policy or planning across sectors, policy areas or organizations. Gender mainstreaming is mandated in WHO gender policy (see WHO, 2005b). This policy has been developed in the context of understanding health as a human right and adopting equity in health as a goal. Both of these principles underpin the WHO Framework Convention on Tobacco Control and support a framework that offers considerable opportunity for the future development of responses to global tobacco use. In short, there are several mechanisms and approaches that need to be considered and/or integrated into future plans under the Framework Convention in order to consider gender in tobacco policy more adequately.

## Gendered rights to health

The opportunity for health, access to health services and information and the ability to make or participate in decisions concerning health

are all key aspects of the right to enjoy health. Specifically, with respect to tobacco marketing, use and programming, both women and men need full information about the sex-specific effects of tobacco use, access to gender-specific programmes and the opportunity to be considered and/or participate equally in research regarding tobacco use and interventions. In addition, women and men need equal protection from gendered advertising and marketing and the development of sex-specific tobacco products by transnational tobacco companies. Finally, both women and men need gender-sensitive information about, and protection from, secondhand smoke and occupational exposure to tobacco or nicotine.

Articulation and protection of all of these as "rights" form the basis of a new discourse on tobacco use and tobacco control, and will assist in equalizing opportunities for health between men and women and boys and girls across the world. This approach will also broaden the base for tobacco control interventions.

This discourse is universally applicable. It forms the basis of an equity-based framework responding to disadvantaged groups or populations who are unequally affected by tobacco use. In developed countries, these are often young persons, those with low socioeconomic status and individuals of indigenous descent. In low-income and middle-income countries, they may be larger groups and wider cross-sections of the population, first predominantly male and later, as the stages of the tobacco epidemic evolve, more gender-balanced subpopulations. In addition to young people, they may include specific occupational groups, educational groups or regional populations. These subgroups also display gendered patterns of use, further specifying the effects of tobacco uptake and the patterning of usage trends.

For women, the rights associated with tobacco information and control dovetail with United Nations agreements regarding women and children, such as the Convention on the Elimination of All Forms of Discrimination against Women (CEDAW) and the Convention on the Rights of the Child, which help to create legal frameworks for social and public health policies. The Convention on the Elimination of All Forms of Discrimination against Women, for example, has existed for over 25 years and has been ratified by 185 countries (as at June 2007), all of which are legally required to uphold it. The Convention is important because it recognizes the global existence of patriarchal relations in both the private and the public spheres and the resultant inequality of women (Abaka, 2001:202). Article 12 specifically requires the elimination of discrimination in health care, which would include health information about tobacco or pharmacological treatments for tobacco addiction. Article 11(1)(f) offers protection by ensuring healthy working conditions, which is relevant to secondhand smoke regulations.

Treaties and frameworks are mutually reinforcing. The WHO Framework Convention on Tobacco Control could be further strengthened in conjunction with the Convention on the Elimination of All Forms of Discrimination against Women and the Beijing Platform for Action, adopted at the Fourth World Conference on Women (Beijing, China, 4-15 September 1995), since the various opportunities existing within these treaties can iteratively feed each other. For example, in the review and appraisal of the implementation of the Beijing Declaration and Platform for Action ("Beijing + 10" – New York, 28 February-11 March 2005), attention is drawn again to a range of persistent issues, all of which directly or indirectly contribute to increases in tobacco use or negative effects of tobacco production and policies on women and girls.

> *A large gap exists between policy and practice which needs to be explicitly addressed. Persistent gaps in all regions included low levels of women's representation in decision- making positions; stereotypical attitudes and discriminatory practices; and discrimination in employment, including occupational segregation and wage gaps. Violence against women, including domestic violence, was noted as a major challenge worldwide. In some regions, Governments noted disproportionately high poverty levels among women, and their insufficient access to or control of economic resources. Governments also noted the serious impact of conflict on women, and including gender based violence. Member States Countries reported the prevalence of HIV/AIDS among women and trafficking in women and girls.* (CEDAW, 2005)

Finally, links to the international women's health movement, a key part of the women's movement, are critical and can be facilitated through international organizations, nongovernmental organizations and conferences. The International Network of Women against Tobacco (INWAT – www.inwat.org) is a key partner in bringing together the issues of women's rights, health and tobacco control. The goals of INWAT include reducing tobacco use among girls and women, spreading information and sharing strategic responses to women's and tobacco issues, supporting women-centred prevention, cessation and policy, promoting female leadership, integrating women and gender issues into world conferences and supporting the WHO Framework Convention. INWAT has over 1500 members worldwide across all regions.

The notion that "women's rights are human rights" has been reaffirmed over the years, in the Vienna Declaration and Programme of Action, adopted by the World Conference on Human Rights (Vienna, 14-25 June 1993) and the Beijing Declaration from the Fourth World Conference on Women in 1995. This set the stage for expansion of the WHO Framework Convention and for integrating women's equity goals into human rights activities. Certainly, many of the issues noted by the Beijing + 10 review are human rights issues and will continue to be regarded as such. Links to the emerging men's health movement may be equally important in the future, in order to identify which, if any, issues are indicative of men's gender-based inequalities in health, human rights or economic security.

For children, the issues of tobacco have been embedded in children's rights within the framework of the United Nations Convention on the Rights of the Child: (http://www.unhchr.ch/html/menu2/6/crc/treaties/crc.htm; see also WHO, 2001). This covers the health damage to children from smoking and from exposure to secondhand smoke generated by adults, tobacco marketing and occupational and child labour issues connected with tobacco production. Approximately 700 million children are exposed to secondhand smoke worldwide (WHO, 2001:5). In addition, States are encouraged to consider providing diverse, accurate information to children about tobacco, protecting them from hazardous work and providing an adequate standard of living for them. However, the Convention does not separate considerations for girls and boys, nor does it apply a gender-based analysis to the issues of tobacco use, exposure and labour, all of which should be important future considerations.

## Gendered rights to economic progress, power and stability

The global gender gap is a measurable phenomenon. The 2005 report by the World Economic Forum (Lopez-Claros & Zahidi, 2005) measured the global gender gap using

five different measures (educational attainment, economic participation, economic opportunity, political empowerment and health and well-being). The results indicate that the gender gap exists across all levels of development, with the greatest gaps in countries in the Middle East and Africa (specifically Egypt, Jordan, Pakistan and Turkey). The closing of the gender gap for these socioeconomic measures tends to correspond with the closing of the gender gap in smoking prevalence as women's smoking rates increase. For example, Sweden has the highest ranking on the gender gap scale, with small discrepancies on these indicators, and is one of the few countries in the world that has a higher prevalence of women smokers than men (INWAT, 2004).

Most of the world's smokers (84%) live in developing and transitional economy countries (WHO, 2004a:3). However, tobacco use is linked with poverty more generally. In Stage 4 countries, for example, the poorest segments of the population exhibit the highest rates of smoking. Certain subgroups of populations in rich countries, such as indigenous peoples, are also disproportionately poor and are often at risk for similar effects of tobacco use as people in the world's poorer nations. Given that women are more likely to be poor than men, even in the richest countries, the effects of tobacco consumption and production remain a gendered phenomenon.

The Millennium Development Goals (http://www.un.org/millenniumgoals/), proclaimed in 2000, were aimed at alleviating poverty and hunger and improving health and economic progress in the world's poor nations. One of the goals is to promote gender equality and empower women, and another is to improve maternal health. Tobacco control is closely linked with the achievement of the goals, as tobacco use leads to death, exacerbates poverty, contributes to world hunger by diverting prime land away from food and reduces economic productivity (Esson & Leeder, 2004:2; Shah, 2005). These effects are gendered, as males take up smoking first and have more political and economic power in all countries. These patterns affect household incomes, access to food and use of agricultural land.

Females often bear the brunt of the uptake of smoking and globalization through malnutrition in their children, exposure to secondhand smoke and loss of principal breadwinner, agricultural land and food security. As the tobacco epidemic develops, sex differences in the trends of uptake and consumption of tobacco products are diminishing. This will mean that, in addition to the above burdens, women will increasingly suffer from poor health, economic losses and the effects of working in the tobacco industry. All of these effects may be gendered and enhanced by economic losses at the country level, increased health costs and loss of productivity. Clearly, progress toward the Millennium Development Goals related to gender and/or women's health will be significantly set back by projected increases in tobacco use and production in developing countries.

Both children and women are disproportionately affected by engagement with the tobacco industry, particularly in developing countries. Shoba and Vaite (2002), with PATH Canada, released a report on tobacco and poverty in India and Bangladesh, detailing the health, sexual and

economic abuses imposed on women and children who worked in industries such as bidi-rolling or tobacco production. In addition, forcing girls to spend their time bidi-rolling is seen as a method of social control, preventing them from pursuing education or other activities. Many street children in these countries also consume tobacco in a variety of forms (Shoba & Vaite, 2002).

Tobacco farming, on the other hand, is often controlled by men, and many farmers are linked to or registered with transnational tobacco companies, such as British American Tobacco (BAT). Even so, these farmers rely heavily on household labour for their operations, usually involving the women and children. These farmers are often struggling with low market prices or poor yields, and nonregistered farmers are often more exploited by the tobacco companies and receive lower prices for their products (Shoba & Vaite, 2002).

The tobacco industry often paints a deceptive picture for poor farmers. It asserts that tobacco is an essential industry to the economy and hence acquires farmers' land for a lucrative cash crop. In reality, the farmers sacrifice their land and their health. As well, their spouses (usually wives) and children act as unpaid labour and often end up dependent on tobacco (Campaign for Tobacco Free Kids, 2001). Furthermore, the tobacco industry overestimates the importance of the crop for employment in developing countries (Campaign for Tobacco Free Kids, 2001; Warner & Fulton, 1995). For example, Malawi reports 157,000 people growing tobacco, but this translates into only 93,000 people who are employed full-time or are dependent on tobacco cultivation (Campaign for Tobacco Free Kids, 2001).

Tobacco is simply not profitable for small farms in poor countries. Growing tobacco requires costly fertilizers and pesticides and is very labour-intensive, with much of the labour provided by farmers' family members. Although farmers may receive high prices for their crops per unit of land, the actual returns after considering the high input costs is often less than for alternative and realistic subsistence crops (Campaign for Tobacco Free Kids, 2001). In Brazil, it was predicted that, in 1998, 35% of tobacco growers would finish the harvest owing more money to the tobacco companies than they earned (Campaign for Tobacco Free Kids, 2001).

Both children and women are disproportionately affected by tobacco production, particularly in developing countries. As in the majority of agrarian societies, women are not landowners or land operators and often have no control over crop choice. Children are often used as agrarian labour with little choice. The same pattern is true in tobacco farming, as both women and children are burdened with the consequences of growing and manufacturing tobacco. "In the tobacco season we have a lot of work and we have little time to cook for our children", says the wife of a farmer in the Migori district in western Kenya who grows tobacco for BAT (Campaign for Tobacco Free Kids, 2001:19). In Zimbabwe, a women's organization activist says: "The worst who suffer are women who are growers. The multinational corporations exploit women working in tobacco fields and tobacco barns, as they work for very low earnings".

Working with large amounts of toxic agrochemicals used for farming tobacco can be deadly, particularly for farmers in poor countries where there are no safety regulations in place. Many workers wear no protection and have direct contact with the chemicals. Men, women and children suffer from vomiting, uncontrollable bleeding and dizziness. "Children are directly exposed to a cocktail of highly toxic agrochemicals. In addition, children who pick tobacco can end up with a type of nicotine poisoning caused by absorption of nicotine through the skin" (Weissman, 1997). The effects on maternal and fetal health are devastating.

Research by the Campaign for Tobacco Free Kids (2001) discovered reports of unexplained miscarriages among women working in Kenya and high rates of deformed babies among indigenous Huichole women in Mexico.

Tobacco farming and consumption detract from economic progress, power and stability further by preventing children from going to school. In many poor countries, children in rural areas do not attend school beyond the primary years or, in some cases, at all. Even more discouraging is that, in some countries where education is free, such as Malawi, children are often required to help feed their families by working on tobacco farms. A report by Fyfe (1998) on child labour in agriculture says that children living on tobacco estates are working full-time or part-time and are generally not attending school. Given that girls are less likely to be sent to school in developing countries to begin with, they may be at an even greater disadvantage (UNICEF, 2005).

The detrimental effects of industry involvement at all levels (farming, advertising and consumption) are accelerated by globalization of markets, technology and tobacco imagery. Practices such as Internet-based advertising and tobacco sales are facilitated by globalization and communications technologies. Forces such as these act as accelerants to spread tobacco around the world. Globalization processes are also gendered, and therefore can also accentuate the gendered effects of tobacco.

In general, globalization shifts the work of women and families into mass organized labour and foreign ownership, facilitated by transnational companies. The global economy generates capital largely through insecure, poorly paid and demeaning work, often done by women or disadvantaged workers. The effects of globalization are generally worse for women in Stage 1 and 2 economies, as they tend to end up doing more work. As Moghadam (1999) states: "women have been gaining an increasing share of many kinds of jobs but ... their labour-market participation has not been accompanied by a redistribution of domestic, household, and child-care responsibilities".

To sum up, gender determines roles and experiences and interacts with sex-based differences to affect health consequences. There is no doubt that tobacco use, production and farming increase or exacerbate poverty on an individual basis, as well as at the family, community and country levels. These patterns are gendered and increasingly globalized, further contributing to or reinforcing global gender inequities.

## The Framework Convention opportunity

The WHO Framework Convention on Tobacco Control (WHO, 2003c) is WHO's first public health treaty, developed in response to the globalization and spread of the tobacco epidemic. It came into force in February 2005, and has been ratified by 150 Member States as of September 2007. The WHO Framework Convention presents an opportunity for global standard-setting in tobacco control, and forms a stronger response to the global and transnational tobacco industry. Its provisions offer several opportunities for advancing gendered understandings of tobacco use and responses.

In the preamble to the WHO Framework Convention, deep concern is expressed about indigenous peoples' use of tobacco, and alarm expressed about the increase in girls' and women's use, gender-specific risks and the escalation in smoking among children and youth. These concerns permeate Article 4 of the Framework Convention, which delineates its guiding principles. Article 4 states that the participation of indigenous individuals and communities, the recognition of gender-specific risks and the engagement of civil society in all efforts under the Framework Convention are all critical to developing appropriate and gendered

tobacco control strategies and policies. While the effectiveness of the Framework Convention depends on the commitment that develops at local, regional and national levels, the implementation of Article 4 will depend on the capacity of Contracting Parties to monitor, understand and accommodate gender in their policies and plans.

The Framework Convention and its principles offer a stellar opportunity for raising global standards regarding the consideration and treatment of gender and diversity in planning, programmes and policies in tobacco control. As described above, it also offers critical opportunities for interlocking strategies with other global conventions or treaties on equality and protection of women, children and human rights.

The Framework Convention includes several provisions on a range of issues from prevention, through advertising, to production, trade and tax. While all of the activities under the Framework Convention, and in tobacco control more generally, can benefit from taking gender into account, selected provisions are addressed in more detail below, illustrating some key ways in which gender could be introduced into the policies resulting from the Framework Convention. Taking gender into account involves identifying both sex differences and gender influences and implies a diversity-sensitive approach. It also means that community, country and regionally based initiatives must complement larger comprehensive tobacco policies and programmes. Given these caveats, multidisciplinary approaches in both practice and research are essential.

**Gender-sensitive responses (Addressing the demand for tobacco – Articles 6, 13, 14 of the WHO Framework Convention)**

Considerable research on the effectiveness of comprehensive tobacco programming in developed countries has led to the conclusion that multipronged approaches are required, and that prevention and cessation programmes work in concert with media campaigns, advertising regulations, taxation policies, community strategies and counter-advertising. It is assumed that these efforts are synergistic and that population-based economic and regulatory strategies have long-term impact, while interventions of an educational or clinical nature are important at the individual or small-group level (United States Surgeon General, 2000).

It is not known, however, how to disentangle the effects of the various approaches, either to measure their individual effects or to compare them using similar measures. In general, little research exists to show how these comprehensive approaches differentially affect females and males, or subpopulations such as indigenous people, people on low incomes, people with mental health issues or lone mothers, to name but a few. Applying a full gender analysis requires these cross-cutting issues, both biological and psychosocial, to be taken into account. These diversities of experience clearly contribute to initiation, maintenance and cessation of smoking, as well as creating differential responses to tobacco interventions and policies.

The rise of tobacco use among girls and women worldwide is linked with other forces and issues. For example, urbanization and modernization along with other rapid social changes, combined with aggressive advertising and market development by the tobacco industry, all affect consumption and prevalence of tobacco (Brands & Yach, 2002). Males in less developed countries will also be exposed to such social forces. To intervene with these broad social and profit-driven forces in effective ways will require gender-sensitive and diversity-sensitive prevention and intervention approaches. These approaches will need to reflect sex differences in responses to tobacco, nicotine and various tobacco products, as well as gender-related and diversity-related influences on behaviour, social attitudes and practices. Inevitably, these processes are accelerated

by globalization or markets and technology, as well as practices such as Internet-based advertising and sales of tobacco.


There is little conclusive evidence to show what works to reduce tobacco use among women, compared with men. Despite numerous interventions from community to clinic, there has been little systematic research analysing gender and sex differences in countries at various stages of the tobacco epidemic. It is known that biopsychosocial factors are important to women, such as pregnancy, fear of weight gain, social support needs, identity issues and depression, and that these are linked with maintenance and cessation patterns (United States Surgeon General, 2001). In addition, it is known that positive health behaviours, such as physical activity, show a negative correlation with smoking.

**Gender- and diversity-specific and gender- and diversity-sensitive policy (Addressing policy responses Articles 6, 8, 16)**

Comprehensive tobacco policies have several components, which are developed in concert and expected to work together synergistically in a region, country or community. These approaches include a range of policies, such as tax and price, restrictions on smoking locations, sales to minors, advertising and marketing enforcement, community programmes, surveillance, etc. (see INWAT, 1999 or WHO, 1998 as examples). More recently, in some countries, the tobacco control movement has added "denormalization" – i.e. activities intended to reduce the social acceptability of tobacco use – as a component of comprehensive tobacco policies (e.g. Non-Smokers' Rights Association in the United States of America, National Strategy to Reduce Tobacco Use in Canada).

The first component of a comprehensive tobacco policy is a national plan (WHO, 2004b). This generally sets the stage for building infrastructure and capacity for programming, training and research/evaluation. At this stage, gender and diversity mainstreaming need to occur, but in the past they often have not. The planning stage represents an important entry point for mainstreaming gender and diversity awareness, as it will shape and define the type of evidence that is used to inform policies and programmes, as well as the partners required to develop them. This will enhance the effectiveness of the plan by allowing for the development of tailored and appropriate approaches, as well as conveying an assumption that tobacco use is gendered and needs to be considered as such. In addition, it will put the comprehensive approach and any national plan on a basis more similar to those of tobacco companies – where marketing, advertising and product development are gender-sensitive and diversity-sensitive.

In low-income and middle-income countries grappling with the first or second stages of the tobacco epidemic, gender and diversity mainstreaming in national planning will put them in a more favourable position than higher-income countries were 50 years ago, when responses to the tobacco epidemic were first

being developed. This is potentially the best insurance against a long curve of prevalence, and may actively shorten the structure of the curve of the epidemic in low-income and middle-income countries.

Diversity mainstreaming needs to include more than identifiable subpopulations sharing cultural or ethnic identities. In Stage 4 countries, attention is increasingly turning to the complexities of both subcultural and other cross-experiences. There is increased evidence that various experiences associated with disadvantage, low socioeconomic status or minority group status contribute to the picture of understanding tobacco use. Research data on these multi-occurring situations is incomplete, but increasing. While some vulnerable groups such as victims of violence or lone parents are overwhelmingly female, there is generally an absence of a sex and gendered analysis of these multi-occurring issues.

Nonetheless, there are several groups that need consideration and examination in forward-looking planning in countries that may not yet be in Stage 4. For example, inmates of prisons (Awofeso, 2002; Voglewede & Noel, 2004) and psychiatric institutions (Makikyro et al., 2004; Margolese et al., 2004; Ramsey et al., 2002) are much more likely to be smokers than the general population. Over three quarters of United Kingdom prison inmates smoke, and over half are moderate or heavy smokers (Richardson, 2001). Women who are single parents (Siahpush et al., 2002; Siahpush, 2004) and persons who have survived sexual and physical abuse (Nichols & Harlow, 2004), also usually female, are more likely to smoke. Most, if not all of these groups are often simultaneously dealing with a range of adverse health and economic issues.

European research indicates that multiple disadvantages accumulate to influence both smoking initiation and cessation (Kunst et al., 2004). In Britain, four factors related to socioeconomic status were independent predictors of smoking, and prevalence among women who experienced all four was 73%, compared with 46% among women who experienced only one (Graham & Der, 1999). In Germany, for example, quitting rates were lowest for groups experiencing disadvantage in all three aspects of socioeconomic status, low education, income and labour force participation (Helmert et al., 1999).

Other subpopulations, such as homeless people, are also emerging as a focus of study (Arnsten et al., 2004; Butler et al., 2002) as they are vulnerable to higher-than-average rates of tobacco use. Finally, while not necessarily of low socioeconomic status, groups such as gays and lesbians (Austin et al., 2004; D'Augelli, 2004; Hughes & Jacobson, 2003) experience discrimination and limitations in everyday life, which may link to their higher than average tobacco use.

It is important to note that both biological and social factors interact to create vulnerability. For example, children of women who smoked while pregnant are more likely to become smokers owing to biological predispositions established during fetal development (Kandel et al., 1994; Niaura et al., 2001). Additionally, children whose mothers smoke are also more likely to smoke owing to the effects of role modelling (Chassin et al., 2002; Faucher, 2003). Other biological processes may be at work, contributing to the vulnerability of persons with mental health diagnoses to tobacco use, as they combine nicotine with other drugs, and/or use nicotine to calibrate their own biochemical states (Gamberino & Gold, 1999; Levine et al., 2003; United States Surgeon General, 2000).

Applying a full gender analysis requires these cross-cutting issues, both biological and psychosocial, to be taken into account. These diversities of

experience clearly contribute to initiation, maintenance and cessation of smoking, as well as creating differential responses to tobacco interventions and policies. While it took Stage 4 countries several decades to acknowledge these trends, and they are only now responding, developing future global tobacco policy directions could be informed by these analyses from this point forward.

What are the implications of addressing gender in the WHO Framework Convention? What do we know about sex and gender issues in the responses to the regulations governing sales to minors (Article 16), taxation (Article 6) and smoking location restrictions or bans (Article 8)?

**Sales restrictions:** Girls are less likely to attempt to purchase cigarettes (Hinds, 1992), but are more likely than boys to be acquiring cigarettes from noncommercial sources (Castrucci et al., 2002). Among teens who do attempt to purchase cigarettes, girls are more likely to be successful (Klonoff et al., 1997). Interestingly, both the gender of the teenager and the gender of the merchant may play a role in whether or not a purchase attempt is successful, with one study observing that female clerks are less likely to sell cigarettes to minors than male clerks (Klonoff et al., 1997). The study by Klonoff et al. (1997) in the United States of America indicated that the effectiveness of sales restrictions may also vary by ethnicity, finding that Latino teenagers were significantly more likely to purchase cigarettes successfully compared with White teenagers, and Latina girls four times more successful than Latino boys.

**Taxation and pricing policies:** Among studies that have examined taxation or price increases as a tobacco control measure, the evidence indicates that this is an effective strategy in creating substantial reductions in smoking among the general population and also among people living on low incomes, although it is unclear whether (or how) women may differ from men in their response (Biener et al., 1998; 2000; Chaloupka & Wechsler, 1997; Laugesen & Swinburn, 2000; Farrelly et al., 2001; Townsend, 1987; Stephens et al., 2001). There are divergent results which fail to indicate whether women and men differ in their price-responsiveness to cigarette tax increases. Farrelly et al. (2001) report that women in the United States of America are more price-responsive than men. They also note that the nature of the response differs greatly, with women being much more likely to quit smoking in response to a price increase, and men more likely simply to reduce the number of cigarettes they smoke. Varying results have been found in other countries, with Borren & Sutton (1992) also reporting greater price-responsiveness among women in a UK sample but Stephens et al. (2001) reporting equal price-responsiveness among women and men in Canada.

Studies also report that tax increases do encourage smoking cessation among both men and women living on low incomes and, in fact, that low income indicates greater price-responsiveness. In an analysis of 14 years of National Health Interview Survey (NHIS) data in the United States of America, Farrelly and colleagues (Farrelly & Bray, 1998; Farrelly et al., 2001) showed that individuals with an income at or below the median income for the sample (including both women and men) were four times as price-responsive to cigarette tax increases as the higher-income group.

Chaloupka & Pacula (1999) examined cross-sectional data from American high school students and found that the taxation of tobacco products was less likely to result in a decrease in smoking prevalence in girls than in boys. Lewit et al. (1997) have also reported similar findings. Consistent with the research carried out among adult smokers, Biener et al. (1998) have observed that adolescent smokers from low-income households are also highly responsive to price increases as compared with teens from higher-income households.

Diversity within a population also matters. Chaloupka and Pacula (1998) analysed the gender-specific and race-specific responses of youth in the United States of America to price and tax policies and found that young men are twice as responsive to tax and price than young women and that Black men are more responsive than White men. Farrelly et al. (2001) examined price-responsiveness among three ethnocultural groups in the United States of America: African-Americans, Hispanics and Whites. Price-responsiveness was lowest among White Americans, with results indicating that African-Americans were twice as price-responsive and Hispanic-Americans were more than six times as price-responsive, even when income is controlled.

Clearly, more work needs to be done to establish the gendered, age-related and diversity-related responses to taxation and price increases. These investigations need to employ mixed methods in research, including qualitative approaches and community-based surveys to establish the actual effects of these increases on other behaviours, expenditures and health issues among women, men and children.

**Smoking location restrictions:** There are numerous possible restrictions or bans on smoking in public places, such as those in restaurants, bars or public buildings. In addition, in some Stage 4 countries, private-space bans are being encouraged and/or contemplated for future policy directions. Both workplace and home-smoking bans have been studied. Workplace smoking restrictions have a moderate effect in decreasing smoking prevalence and cigarette consumption. Partial bans are less effective in influencing smoking patterns than a complete ban. While gender and socioeconomic status have been considered in a small number of evaluations, it is rare that both variables have been considered concurrently within one study.

Smoking bans in the home also appear to be associated with positive changes in smoking behaviour among adults. Two studies have shown that adult smokers who live in homes where indoor smoking is restricted or not permitted at all are more likely to be smoking fewer cigarettes per day and contemplating or attempting cessation (Norman et al., 2000; Kegler & Malcoe, 2002). In their assessment of workplace smoking restrictions among several industry groups in the United States, Farrelly et al. (1999) observed that workplace bans were less likely to influence women's smoking prevalence as compared with men's.

Adolescents who live in homes where smoking is restricted or not permitted at all are less likely to experiment with cigarette smoking (Proescholdbell et al., 2000) or are less likely to move on to a later stage of smoking uptake (Wakefield et al., 2000). Even among adolescents who do smoke, there is evidence of a positive benefit in maintaining a restrictive home-smoking policy. In one report, adolescents living in smoke-free households were 1.8 times more likely (95% CI: 1.23, 2.65) to have quit smoking than those living in households with unrestricted smoking (Farkas et al., 2000). In a study that examined gender differences among adolescents, Proescholdbell et al. (2000) report that permissive home-smoking policies are more strongly related to regular smoking for girls than for boys.

### Gendered responses to advertising, environmental protection and health professionals issues (Articles 8, 13, 17, 18)

There are several other articles in the WHO Framework Convention that could be enhanced with a gendered approach. For example, Articles 17 and 18 regarding environmental protection and health in the context of tobacco cultivation refer to many of the issues mentioned above in the section "Gendered rights to economic progress, power and stability" regarding gendered rights to economic and other forms of security.

As we have seen, these issues are clearly gendered. Article 13, regarding advertising, promotion and sponsorship, calls for a comprehensive ban on these activities. Decades of history and experience with the tobacco industry's promotion practices clearly indicate that a gendered approach has been taken in tobacco advertising for at least 80 years. This has resulted in "male" brands and "female" brands, supported by tailored marketing campaigns and imagery. Currently, these approaches are continuing in countries without bans. In addition, gendered and diversity-sensitive advertising and promotion continue to occur, as the industry focuses on women and men in countries where tobacco markets are being cultivated and tobacco use is on the increase.

Further, sex-specific product development and promotion began at least as early as the 1970s, when the industry directed its attention to creating products such as "light" and "slim" cigarettes, directed at girls and women and manufactured with female physiologies in mind (Joossens & Sasco, 1999). Even in countries with bans, sponsorships often continue, usually with a gendered component, as the tobacco industry develops other means of supporting its target markets and product exposure. An attendant issue, specifically for girls and women, is the use of females in marketing activities in a wide array of countries. The traditional "cigarette girl" of the mid-20th century continues to be a feature of contemporary marketing practices in low-income and middle-income countries. These activities tend to exploit both sexuality and youth in engaging women for tobacco industry marketing and promotional purposes.

Article 8 refers, in part, to health workers. Health workers and professionals have a special role to play in tobacco reduction and prevention. They often bear two responsibilities: to be smoke-free themselves in order to model good health behaviour, and to encourage prevention and treat tobacco users. To these ends, it is advisable to provide cessation support for health professionals. The WHO/CDC Global Health Professionals Survey (GHPS) assessed the prevalence of smoking and attitudes towards and training in smoking-cessation counselling of health-profession students in 10 countries (WHO, 2005a). While over 86% of the students in medicine, nursing, pharmacy and dentistry believed that it is their role to give advice to patients about smoking cessation, some groups continue to smoke at high rates.

In Albania, for example, pharmacy students had the highest rate of smoking at 47.1%, 65.8% of male students and 38.9% of female students (CDC, 2005). In some Eastern European countries, smoking rates were higher among female nursing, dental and pharmacy students than among male students (CDC, 2005). In general, male health professionals in these countries had higher rates of smoking (CDC, 2005). However, nurses in the United States of America and Spain, who are predominantly female, have a higher rate of smoking than doctors (Patkar et al., 2003; Nelson et al., 1994; Fernandez Ruiz & Sanchez Bayle, 2003), and high rates of smoking among Australian nurses have also been reported (Hughes AM & Rissel, 1999). A study by Patkar et al. (2003) found that four times as many nursing students in the United States of America smoke than medical students; and female smokers in both groups were more nicotine-dependent than male smokers.

Health professions in most countries are gendered. The patterns differ, but in most countries the higher-status occupations tend to be male-dominated. These patterns are changeable, but often female domination changes the status of a profession and can reduce its status and economic reward. The vast majority of health workers, health visitors or family health managers, however, are female. In addition, the majority of nurses are female, so gender issues are

of paramount importance in focusing practices and policies and educating health workers.

Health professionals of all kinds need to include gender considerations in their work, as men and women require different tobacco cessation approaches. Gender and sex differences produce different tobacco use and cessation patterns between males and females, requiring gender-specific cessation information, treatment and support. The evidence that women have less confidence in their ability to quit, higher relapse rates and fewer cessation attempts (Samet & Yoon, 2001) suggests that women require more support leading up to and following their attempt to quit. Evidence also suggests that nicotine replacement therapy is less effective for women (Samet & Yoon, 2001) and they may require more one-on-one cessation counselling and educational activities, such as journalling. Further, tobacco-related diseases such as chronic obstructive pulmonary disease or lung cancer are expressed differently in women compared with men and require up-to-date and sex-specific knowledge to diagnose and treat them.

**Gender-specific and gender-sensitive research (Articles 20, 21 and 22)**

WHO, in partnership with Research for International Tobacco Control, has published a global research agenda entitled Confronting the epidemic (WHO/RITC, 1999). This agenda addressed high-risk populations (youth, women and indigenous populations) and called for more research dedicated to these groups. In addition, Baris et al. (2000) identified research priorities for developing countries which included basic research infrastructure, standardized common surveillance systems, network capacity and resources. Overall, however, they identify the need for multidisciplinarity and transdisciplinarity in tobacco research and regional representation in developing research agendas and directions across the world.

Warner (2005) suggests that there are rich opportunities for research in low-income and middle-income countries, especially on the differential effects of price and tax increases, the issues involved in improving tobacco education and cost-appropriate cessation therapies. He also describes considerable barriers to research in low-income and middle-income countries, such as the low level of political will, interest and economic resources to devote to tobacco control, a situation greatly influenced by the tobacco industry. In addition, the context in low-income and middle-income countries, with their many other health and economic issues, often puts tobacco control low on the agenda.

In the light of these basic requirements and in the face of these opportunities and barriers, there is also considerable work to be done in redressing gaps in research examining sex differences and gender influences in tobacco use and control. Decades of addressing tobacco use as a male health issue have led to the acquisition of scientific knowledge relevant to men and male-sensitive prevention, interventions and policies that have often been presented and applied generically.

There are clear opportunities for future research to support the WHO Framework Convention that can be developed in all regions of the world concurrently. One is the re-analysis or secondary analysis of large datasets to identify the sex-differentiated knowledge that may already exist, but is not recognized or remains unpublished. A second is the development of a fully informed research agenda that accounts not only for sex differences and gender influences, but also for the interaction of sex and gender as it affects tobacco use and responses to interventions. To complete this picture, attention to diversity must be mainstreamed into all future research, both within and between countries and regions. This latter approach will ensure that due attention is paid to the (sometimes) large differences

between subgroups within a population and in migrant populations, whose tobacco use profiles often tell a very different story from the main or host populations.

These efforts, by their very nature, must be multidisciplinary or transdisciplinary. Indeed, this more specific, sensitive and sharpened research agenda will require assistance and facilitation from high-resource countries and organizations, such as Research for International Tobacco Control (Canada) and the National Institutes of Health (United States of America). If a further refined global research agenda is developed that is responsive to gender differences, it will assist in reducing the tobacco epidemic in low-income and middle-income countries. Given the historical and ongoing sex, gender and diversity-aware research carried out by the tobacco transnationals, it is imperative that all further research in tobacco be similarly designed. The developed world erred in not addressing the sex and gender differences in tobacco use until well into the epidemic. Low-income and middle-income countries have an opportunity, with the advantage of this hindsight, to adopt a much more effective approach.

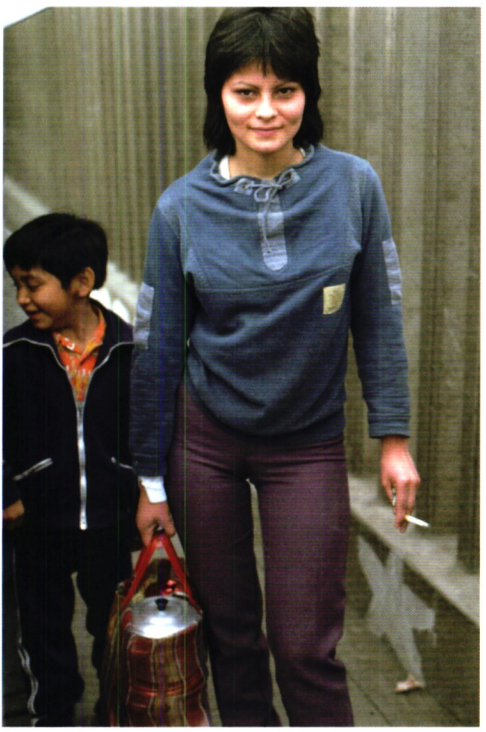
## C. Conclusions and recommendations

Much more research and evaluation is needed to articulate a comprehensive analysis of the gendered and diverse effects of tobacco control policies. Better measures of responsiveness to tobacco advertising and promotion, counter-advertising and social marketing of positive health promotion messages by gender and group, across and within countries, is urgently required. Most of the detailed research on effectiveness of policies has been conducted in higher-income countries, many of which are in Stage 4 of the epidemic. Much more research and evaluation needs to be carried out in earlier-stage countries in order to measure the consequences, both intended and unintended, of tobacco control interventions and policies.

There are many potential unintended consequences of, and unanswered questions about, tobacco control policies with respect to gender, culture and issues such as low socioeconomic status, indigenous status or coexperiences such as mental illness, violence or discrimination. Such issues are now emerging at the forefront of Stage 4 research and evaluation agendas, owing to decades of experience with broad and blunt tobacco control policy and differential rates of success with males and females and various subgroups of the population. Some examples include the effects on family food expenditures and nutrition when tobacco prices increase, gendered effects of secondhand smoke policies on women who may be lone mothers, or in low-paid jobs, or the effects of power combined with gender in enforcing rules about smoking in the home. When examining interventions with special groups, such as mental health patients, inmates or victims of violence, additional gendered questions arise regarding appropriate cessation treatments, the role of pharmaceuticals or harm-reduction policies.

Clearly, gender affects individual and group responses to policy and vice versa (i.e. policy has gendered outcomes). Combined with income and culture, among other factors, gender is a key variable in designing and testing all forms of prevention of and response to tobacco use. More nuanced policies and approaches that take these differences into account and, more importantly, prevent negative or deleterious unintended consequences can be put into place much earlier in countries making initial plans or for those still in Stage 1 or 2 of the tobacco epidemic.

Alarming predictions about the trajectory of the tobacco epidemic clearly indicate significant sex-differentiated increases in tobacco use with serious health and economic consequences for low-income and middle-income countries in the 21st century. (See, for example, the Tobacco atlas (Mackay & Eriksen, 2002) for pictorials depicting future deaths and the spread of the epidemic.)



The industrialized countries in Stage 4 of the epidemic are increasingly dealing with very specific subpopulations and issues in tobacco use and tobacco control. These patterns have (belatedly) forced more research and policy interest in differences between male and female smokers, as well as among women and among men. With increased migration, some of these countries are also dealing with patterns of tobacco use influenced by the migrants' countries of origin or rates of progressive integration or acculturation. In addition, Stage 4 countries with indigenous populations are experiencing extremely high rates of tobacco use, more reflective of Stage 2 and 3 of the epidemic.

Nonetheless, it is possible to predict that the future epidemic will continue to be gendered in its shape, and will reflect increasingly diverse populations within countries. Mortality and morbidity are more difficult to predict precisely, as many of the countries where tobacco use is increasing have health care systems that are unable to deal with the chronic diseases that tobacco use produces. Indeed, future predictions of mortality may be conservative, as they do not generally take into account the effects of using a wider range of tobacco products, which youth are now doing worldwide (Global Youth Tobacco Survey Collaborating Group, 2003).

It is also possible that the social and economic forces represented by globalization and rapid urbanization will accelerate the growth of the epidemic and that the gender gap in trends experienced in the past by the countries now in Stage 4 will converge more quickly in future. This makes it essential to establish a sex, gender and diversity-sensitive response early on in the progress of a country's tobacco epidemic. Some general recommendations follow.

- **Develop an ethical framework for tobacco control policy development.** The construction of an ethical framework for tobacco control policy will ensure that policy and programmes bring benefits and do no harm; that unintended consequences of policies are monitored and responded to, and that individuals and communities are engaged in their development. As the next generation of tobacco users will be either disadvantaged (in Stage 4 countries) or residents of low-income and middle-income countries, it is essential that social justice and health equity are paramount in the development and refinement of tobacco control measures.

- **Develop specific interventions with and for girls and women.** The real opportunity for curbing the epidemic over the 21st century lie in preventing uptake among women and girls. The most important challenge will be to detach the notion of women's liberation from the uptake of women's smoking, and similarly to delink and debunk the notion that religious and cultural oppression is a key protection from smoking. The challenge will be to fuse the modernization of women's rights and roles with equity in health, particularly freedom from tobacco itself and from the exploitation of the tobacco industry.

- **Address diversity issues in countries at all stages.** It is important to address acculturation and progressive integration vis-à-vis tobacco use in an era of increased migration, both within and between countries. It is critical to address disadvantage and tobacco-related poverty in Stage 4 countries. It will be important to sharpen responses in all countries to deal with different communities within larger populations. For example, when various subpopulations are examined, Stage 2 communities can be identified within Stage 4 countries such as Canada or the United States of America.

- **Acknowledge that cross-cutting issues are increasingly important for men and women.** There is no doubt that some segments of the population will be more liable to smoke and more resistant to quitting smoking. This will make them appear more impervious to tobacco policy and programme interventions. It is of considerable importance to identify and respond to the concurrent experiences that lead to smoking and tobacco use, such as mental health issues, violence and trauma, and how these are influenced by both biological and social factors.

- **The microeconomics and macroeconomics of tobacco use and tobacco control policy are critical to informing policy.** The effects of tobacco growing, use and marketing on individual and family poverty as well on communities and countries is a critical element of tobacco policy. It is important to consider the effects of tobacco use on microeconomics and how these effects may be gendered. The relationship between expenditures on tobacco, particularly for highly addicted smokers, and expenditures on food, and the resulting implications for nutrition in women, men and children are crucial when examining the full health effects of tobacco use and their gendered aspects.

- **Consider gender norms and issues in counter-advertising.** Despite differences between countries, the Internet offers a levelling influence in access to information

and imagery. This will be influential for young women and men, in particular, but will also change practices concerning sales, advertising and information. These avenues can be as useful for social marketing and counter-messaging. Globalization, urbanization and increased travel also affect trends, forms of advertising and practices. These forces are all gendered.

- **Improve surveillance and monitoring to include sex and age disaggregation and new forms of measurement.** Surveillance systems are deficient in providing full information about gender and diversity regarding tobacco use in most countries. There may be sex disaggregation in some Stage 4 or 3 countries, but often such data remain unused or not analysed. In addition, new measures of both tobacco use and addiction, as well as disadvantage, need to be further developed for incorporation into analyses of tobacco policy.

- **Monitor all forms of tobacco to inform tobacco control.** Improving surveillance and research regarding the relative effects of various forms of tobacco and the health and economic issues involved will become increasingly important. Both male and female youth and certain geographically based populations continue to use forms of tobacco other than cigarettes, such as bidis, kreteks or snus.

- **Establish a global standard for gender-based analysis in health.** Integrating gender-based analysis is only just beginning in industrialized countries and will remain limited unless global resources are shared and applied to the furthering of this approach. Gathering commitments for the statement on gender perspective prepared by the WHO Secretariat (WHO, 2005b) across States and providing training and modified surveillance to support gender-based analysis is an important step.

- **Capacity-building is essential for gender-specific policy and programme development.** Both policy and programme development require input from women and men and girls and boys to make sure that future initiatives responding to the real situation. In addition, these processes are community-building and empowering, as individuals and communities will feel engaged in the processes of development, assessment and monitoring.

- **Adopt woman-centred approaches for pregnant smokers.** The sex-specific issue of smoking during pregnancy has been resistant to numerous interventions in developed countries and is a significant problem worldwide. There is growing evidence that high rates of relapse postpartum are related to a variety of factors that result from a traditional focus on fetal health, as opposed to women's health (Greaves et al., 2003). Changing this would signal the importance of improving women's health for its own sake, as well as creating benefits for women pre and post partum.

- **Establish funding and publishing requirements regarding sex, gender and diversity-sensitive tobacco research and evaluation.** It is increasingly important for research and programme funders to require sensitive research or evaluation results. This will ensure that funding is used to build up appropriate evidence for practices that are tailored and useful for planning, as well as sensitizing researchers to questions about tobacco use that remain unanswered for various population groups. Increased use of participatory action and community-based research methods are an added dimension of sensitive research practice that is required to curtail the tobacco epidemic.

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**Sifting the evidence: Gender and tobacco control**

Today, 250 million women worldwide – 12% of the female population – are daily smokers. If current trends continue, that percentage will rise to 20% by 2025. Global smoking rates are stable or in slow decline among men, but still increasing among women, and in low-income and middle-income countries men's and women's smoking rates are converging. For decades, the tobacco industry has manufactured products, brands and advertising aimed specifically at women and girls, while tobacco control measures and research have continued to concentrate largely on men.

This report describes women's widespread but largely undocumented use of forms of tobacco other than cigarettes, such as bidis, kreteks or snus, and their particular vulnerability to second-hand smoke arising from their relative lack of social and economic power. It describes the changes in policy, research and action which are needed for a gendered approach to tobacco control, and how this approach could be incorporated into existing instruments such as the WHO Framework Convention on Tobacco Control and the Millennium Development Goals.


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ISBN 9 789241 595407