Gender, women, and the future of tobacco control

Alexandra Solomon

Abstract

Purpose - This paper aims to provide a gendered analysis of the WHO Framework Convention on Tobacco Control (FCTC) benchmarked upon the global commitments to women's health and well-being in the UN Convention on the Elimination of All Forms of Discrimination against Women (CEDAW) and the Beijing Declaration and Platform for Action. It reviews evidence of the global consequences of neglecting women's tobacco use and health, as well as analyzes persistent issues related to sex and gender that compromise the efficacy of tobacco control and science. Actionable recommendations are made to the Conference of the Parties to the FCTC and other key stakeholders.

Design/methodology/approach - This paper draws upon empirical studies, literature reviews and global health data at the varying intersections of gender, sex, tobacco and global health.

Findings - The global tobacco control framework and its implementation by state governments have been largely gender blind to date with dire health and economic consequences, including inequitable positive outcomes for men compared to women, and an increase in women's smoking with associated morbidity and mortality. Gender equitable progress in combatting the tobacco epidemic will not be possible without resolving the gender bias, stigmatization, sexism and lack of intersectionality that plague tobacco control policy, research and interventions for cessation and harm reduction.

Originality/value - This paper provides an updated global overview of current trends in women's tobacco use and comprehensively details the persistent structural barriers in tobacco control and science that limit their capacity to effectively analyze and address tobacco use and its impact on women.

Keywords Gender, Women's health, Tobacco control

Paper type General review

1. Introduction

The global tobacco control framework and its implementation by state governments have been largely gender blind to date. The WHO Framework Convention on Tobacco Control (FCTC), adopted by the World Health Assembly in 2003, was developed as an internationally coordinated response to the global tobacco epidemic (WHO, 2003). Despite a strong call for the fundamental integration of gender by architects of the Kobe Declaration - the result of the youth- and women-focused 1999 WHO International Conference on Tobacco and Health - the FCTC does not provide guidance, nor accountability, for gender-specific government action for tobacco control and fails to embrace and concretely build upon decades of multinational advocacy for women's health.

For more than 30 years, there have been many calls for the mainstreaming of gender into tobacco control (WHO, 2007); however, insufficient progress been made with dire health and economic consequences. It is incumbent upon the Conference of the Parties to the FCTC and other key stakeholders to purposefully apply an intersectional gender lens to policy, research and interventions, and to address the gender bias, sexism, stigmatization and other persistent determinants that perpetuate gender inequality and inequitable outcomes in tobacco control and science.

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Expression of concern: The publisher of the journal Drugs and Alcohol Today is issuing an Expression of concern for the following article Solomon, A. (2020), "Gender, women, and the future of tobacco control", Drugs and Alcohol Today, Vol. 20 No. 3, pp. 249-262, to inform readers that credible concerns have been raised regarding the editorial process for this article. An investigation is ongoing and is currently unresolved. Further information will be provided by Drugs and Alcohol Today as it becomes available.

2. The framework convention on tobacco control and key multinational agreements

The preeminent international treaty enshrining women's rights is the 1979 UN Convention on the Elimination of All Forms of Discrimination against Women (CEDAW), with General Recommendation 24 elaborating upon women's health (United Nations General Assembly, 1979; UN Committee on the Elimination of Discrimination Against Women, 1999). The Beijing Declaration and Platform for Action, adopted in 1995 at the Fourth World Conference on Women, is also a standard-bearer for global commitment to women's rights (United Nations, 1995). It expresses concern for women's increasing use of tobacco and calls for the implementation of specific actions for health promotion and disease prevention. Both agreements provide a comprehensive framework for women's health, including the collection and use of sex-disaggregated data, access to health care, and the allocation of government resources.

The Kobe Declaration, which draws upon CEDAW and the Beijing Declaration, explicitly demanded that the FCTC incorporate gender-specific perspectives and include a women's protocol. Recommendations included an increase in funding for gender-specific research and advocacy, the use of sex-disaggregated data, affordable tobacco control programs, measures to disconnect women's liberation from tobacco use, and the education of women and girls (WHO Tobacco Free Initiative, 2009; United Nations Statistics Division, Department of Economic and Social Affairs, 2000).

The FCTC falls drastically short of meeting those demands and, further, does not acknowledge the Kobe Declaration in its history, described in Annex 2 of the Convention. The preamble expresses alarm regarding the increase in tobacco use by women and girls and signals the importance of gender-specific strategies; however, its articles lack concrete direction and include only a single line in Article 4, which states "the need to take measures to address gender-specific risks when developing tobacco control strategies." The seventh session of the Conference of the Parties to the FCTC (COP7) in 2016 – 13 years after the FCTC was adopted - was the first time that the Parties collectively discussed the topic of gender-specific risks (Conference of the Parties to the WHO FCTC, 2016) (Table 1).

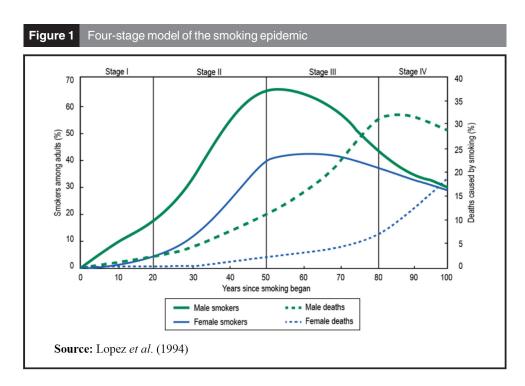
The global consequences of neglecting women's tobacco use and health

More countries have achieved significant decreases in the prevalence of smoking among men than among women, and most countries are seeing only a minimal decrease - or even an increase – in smoking among women (Reitsma et al., 2017). Further, a number of countries have seen a complete reversal in the relative prevalence of smoking among boys and girls, most often accompanied by a shrinking of the gap between men's and women's smoking in adulthood (Table 2). Increased smoking among younger women and girls and overall poor progress in addressing women's tobacco use suggests that the global lower prevalence of female tobacco use may significantly shift in the future. These women will disproportionately develop and die from lung cancer and other tobacco-related illnesses compared to men.

The four-stage model of the smoking epidemic (Figure 1) depicts the relationship over time between smoking prevalence and smoking-attributable mortality (Lopez et al, 1994). Gender distinctive patterns vary according to the stage of the smoking epidemic in a given country, with women generally lagging behind men by 30-40 years (Janssen, 2020). According to this theory, women begin to take up smoking as their position in society begins to improve with political liberalization and increases in labor force participation, and as cultural prohibitions against women's smoking are challenged. Smoking among women will increase first among those with higher socioeconomic status, as it did with men several decades prior and the gender gap will continue to narrow. Currently, women's smoking is most prevalent in high-income countries where there are higher levels of gender equality. Less developed countries, such as those in sub-Saharan Africa and Southeast Asia, are still in the earlier stages of the epidemic (Hitchman and Fong, 2011; Thun et al., 2012; Janssen, 2019; Westphal and Doblhammer, 2012).

Table 1 Comparison	Comparison of the recognition of gender and health in the FCTC, CEDAW and the Beijing Declaration	C, CEDAW and the Beijing Declaration	
	CEDAW and General Recommendation 24	Beijing Declaration and Platform for Action	FCTC
Women's participation	States parties should involve women in the planning, implementation and monitoring of policies, programs and services affecting women's health	Women in leadership positions, including in research and science, should be increased to achieve equality Women, especially local and indigenous women and women's NGOs should be involved in priority identification, policymaking and program design and implementation at all levels	"keeping in mind the need for full participation of women at all levels of policymaking" "Recalling that [CEDAW] provides that states parties to that convention shall take appropriate measures to eliminate discrimination against women in the field of
Gender-specific approach and allocation of resources	States parties should place a gender perspective at the center of all policies and programs and implement a comprehensive national strategy to promote women's health throughout their lifespan States parties must take appropriate legislative, executive, judicial, administrative, budgetary, economic, and other measures to the maximum extent of their available resources to ensure women's" rights to health care Women's health should receive an equitable share of the overall health budget, taking into account their different health needs.	Governments should mainstream women's health needs across all relevant agencies and programs and incorporate women's rights to health into existing and future legislation and policies Media campaigns and educational programs should be developed to inform women and girls of the health and related risks of, and to discourage, substance abuse and addiction and pursue strategies and programs that promote rehabilitation and recovery Mechanisms should be developed and promoted to monitor and disseminate data from gender-sensitive and women-	reautificate "keeping in mindthe need for gender- "keeping in mindthe need to genific tobacco control strategies" "taking into consideration[]the need to take measures to address gender-specific risks when developing tobacco control strategies"
	Reports by states parties should: (a) demonstrate how health legislation, plans and policies are based on scientific and ethical research and assessment of women's distinctive biological, socioeconomic and psychosocial needs, including ethnic, religious or cultural variations (b) include comments on the gendered impacts of both bodising proporting laws and probools.	genetic research acted to the control of the contro	
Access to health care	States parties have a duty to: (c) remove all barriers and ensure all women – including older women, rural women, refugees, pregnant women and women with disabilities – have access to quality, timely, respectful and affordable health care services, education and information. (d) monitor the provision of health services to women by public, non-governmental and private organizations, to ensure equal access and quality of	Governments should remove all barriers to women's health and design and implement, in cooperation with women and community-based organizations, gender-sensitive health programs tailored to the needs of women of all ages, socioeconomic levels and cultures – including rural women, women with disabilities. Health information, services and training for health workers should be redesigned to be gender sensitive	None
Sex-disaggregated data	States parties must report on their health legislation, plans and policies with reliable sex-disaggregated data on the incidence and severity of diseases and conditions hazardous to women's health and on the availability and cost-effectiveness of preventive and curative measures	Researchers should be trained and systems introduced that allow for the use of data collected, analyzed and disaggregated by sex, age and other demographic criteria, in policy development, planning, monitoring and evaluation	None

Table 2 Male to female smoking prevalence ratios					
	Ages 10 to 14		Ages 15+		
Country	2000	2015	2000	2015	
Sweden	0.65	0.49	0.88	0.94	
Bulgaria	0.72	0.52	1.70	1.48	
UK	0.70	0.58	1.07	1.13	
Slovenia	1.36	0.61	1.57	1.35	
Australia	0.68	0.62	1.22	1.21	
Croatia	1.24	0.63	1.57	1.29	
Ireland	0.75	0.65	1.18	0.95	
Canada	0.79	0.66	1.24	1.20	
Czech Republic	1.45	0.74	1.60	1.62	
France	0.88	0.76	1.41	1.27	
Germany	1.08	0.81	1.51	1.37	
Chile	0.90	0.81	1.36	1.28	
Argentina	0.91	0.87	1.45	1.52	
Poland	1.83	0.94	1.65	1.48	
Source: Reitsma et al. (2017)					



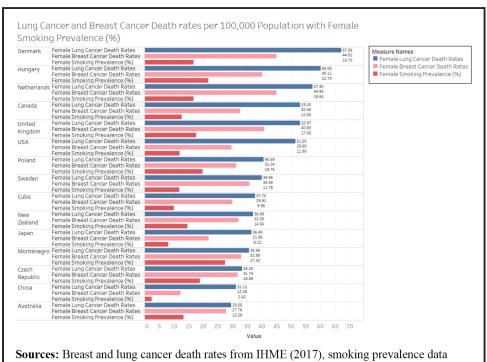
Smoking trends in Europe exemplify the smoking epidemic model. Young women of higher socioeconomic status were the first female demographic to take up smoking (Graham, 1996) and a higher prevalence of smoking among the lower educated was observed later among women than among men (Huisman et al., 2005). France, which has seen a dramatic increase in women's smoking since the 1970s and a decrease in men's smoking, has widening gender inequity in the population's burden of smoking-attributable diseases. Between 2002 and 2014, both the incidence and death rates for lung cancer increased by approximately 70% for women, while the incidence remained stable and the death rate decreased by 15% for men (Olié et al., 2019).

This feminization of the smoking epidemic has largely been driven by the tobacco industry targeting women with gendered imagery and language, as well as women-specific products such as the Virginia Slim, capitalizing on "changing social attitudes toward women by promoting smoking as a symbol of emancipation" (Amos and Haglund, 2000). Linking smoking to identity and image has been central to opening up previously untapped female markets (Graham, 2012). It is important to recognize, however, that there are also sociohistorical, cultural, and religious influences on tobacco use among women. Recognition of the impact of these forces is critical to disrupting the imperialist view that the drivers of women's smoking behavior are globally consistent. For example, the tobacco plant is indigenous to North America, and tobacco use for religious and ceremonial reasons by American Indian women predates the existence of the cigarette industry (Gould et al., 2017). As such, culturally appropriate tobacco control interventions are critical to addressing the unique needs of different subgroups of women.

While smoking among men globally has already peaked and is in decline, it is projected that smoking among women worldwide will not peak for decades, especially in LMICs (Mackay and Amos, 2003). Female deaths will rapidly rise as the full effects of smoking on women's health are realized. Globally, lung cancer rates among women are already beginning to exceed breast cancer rates, particularly in countries where women's smoking has increased or is projected to increase (Figure 2).

Women's use of smokeless tobacco (SLT), which has been insufficiently studied on a global scale, is also of great concern. Available data shows that women are active users and consumption by women is similar to or greater than that by men in some countries (National Cancer Institute and Centers for Disease Control and Prevention, 2014). In India, where smoking among women is largely still taboo, 12.8% of women use SLT, while only 2% smoke. Some states report prevalence of SLT use among women as high as 56.5% (Tata Institute of Social Sciences, Mumbai and Ministry of Health and Family Welfare, Government of India, 2018). The

Comparison breast and lung cancer death rates with women's smoking Figure 2 prevalence



from Reitsma et al. (2017)

oral cancer rate for women in India surpasses the global rates for both men and women (IHME, 2017).

Another critical but neglected issue that disproportionately affects women in India is the impact of tobacco on those used in the bidi sector. Women who roll bidis, or hand-rolled cigarettes containing unprocessed tobacco, are mostly impoverished, have low literacy and are members of Scheduled Castes and Scheduled Tribes (Committee on the Welfare of Scheduled Castes and Scheduled Tribes, 2019; Mazumdar, 2011). They experience health issues such as muscle and joint pain (Joshi et al., 2013), respiratory problems from inhaling tobacco dust (Shukla et al., 2011), and sickness from nicotine absorbed through the skin (Kaup et al., 2017). The homebased contract system of the bidi industry enables companies to evade labor laws and exploit workers, the majority of whom are women (Mazumdar, 2011; John, 2016). In some parts of India, women are first introduced into bidi making during childhood, some as young as four-years-old (Pande et al., 2007). A lack of alternative employment options compels them to continue to seek out bidi making, 24 and some even resort to sex work for other income (HealthBridge Foundation of Canada, 2011; Sahni and Shankar, 2013). Though there has been limited data collected on their tobacco use, observational studies assert that many women use SLT to stay alert and work long hours (Palande, 2019; Sahni and Shankar, 2013).

While sex- and gender-based analysis is fundamental to assessing and addressing the burden of tobacco-attributable diseases, it is also critical to the examination and mitigation of the economic burden of the tobacco epidemic. In 2012, smoking-attributable diseases accounted for \$422bn in health care expenditures globally, nearly 6% of global health spending. Despite greater tobacco-attributable morbidity and mortality among men, women globally are disproportionately impacted by the economic costs due to caretaking responsibilities, limited resources, illness or death of a male breadwinner, and the increasing cost of their own health needs (WHO, 2011). Older women and women living in poverty, female-headed households, and/or rural areas have particularly limited access to affordable health care and are vulnerable to catastrophic health expenditures (Hawkes et al, 2019; UN Women, 2018).

4. Persistent sex and gender gaps in tobacco control and science

4.1 Male bias in research

Because there are sex and gender dimensions of nearly all areas of health and well-being (Peters and Norton, 2018), the underrepresentation, or even exclusion, of women in study populations has limited the development of gender-equitable health interventions and technologies. The quality of intervention outcomes is compromised when the underlying research fails to account for the influence of sex and gender. For example, although cardiovascular disease is the leading cause of death for women globally (IHME, 2017), it has been primarily considered a male disease. Women are often mis- and under-diagnosed because men have been disproportionately represented in research (Kim and Menon, 2009), and so-called "evidence-based" clinical standards and treatments have been developed based on male outcomes (Schiebinger and Klinge, 2015). Similarly, research on sex- and gender-based differences in the diagnosis and management of COPD is in its infancy (Camp and Goring, 2007), which has critical implications for countries such as Belarus and Ukraine, where women's smoking is increasing (Reitsma et al., 2017) and COPD is now more prevalent among women than men (IHME, 2017).

In tobacco research, women are more likely to be excluded from studies based on psychiatric diagnosis and prescription medication use; thus, findings from research that use such exclusion criteria are less generalizable to female smokers (Spinella et al., 2020). Further, clinical trials often fail to consider men and women independently, and insufficient data has been collected to determine the benefits and risks of therapies to pregnant women and women who breastfeed as they, too, are often excluded from studies (Federal Drug

Administration, 2018; Coleman et al., 2015). Critical differences continue to be overlooked and inadequately researched.

For example, studies have revealed that outcomes are generally poorer for women than for men treated with nicotine replacement therapies (NRT) (Cepeda-Benito et al., 2004; Schnoll et al., 2007), but there is a dearth of conclusive follow-up research exploring the underlying causes. Studies have shown that higher levels of estrogen - which naturally fluctuates throughout the life course and increases with the use of hormone replacement therapy (for menopausal, transgender and other women with hormone imbalances) and some birth control pills - may be associated with reduced efficacy of NRT, as estrogen increases the rate of nicotine metabolism (Benowitz et al., 2006; Schnoll et al., 2009; Kidd et al., 2018; Jandikova et al., 2017).

Scientists must not only broaden the diversity of study populations but also their range of focus to comprehensively understand and address the impact of smoking on women. For example, because smoking weakens the immune system and limits its ability to fight infections, women and girls who smoke may be at higher risk of developing cervical cancer through infection of human papillomavirus (Eurohealth, 2017; Kum-Nji et al., 2019). Another area that researchers can explore to deepen their understanding of the effects of smoking on women is the growing field of epigenetics, which focuses on processes that regulate how and when certain genes are turned on and turned off. Studies of smoking-associated epigenetic markers can examine the role of maternal smoking during pregnancy in the longterm health of the children of smokers (Marczylo et al., 2012; Parmar et al., 2018).

4.2 Underrepresentation and inequitable funding of women in leadership and research

Less than 30% of the world's researchers are women (UNESCO Institute for Statistics, 2018). While the number of women in science, technology, engineering and math (STEM) careers overall has slowly been increasing, less progress has been made among women of color and other underrepresented minority women (Armstrong and Jovanovic, 2015). Further, women in STEM-related occupations, including tobacco and nicotine science, are more likely to leave their field for others (Kleykamp et al., 2019). Gender inequity is also widespread in global health leadership. Women account for only a fraction of Ministers of Health, Directors of Global Health Centers, World Health Assembly Member State Delegations and Leaders of Global Health Funding Agencies (Dhatt et al., 2017a, 2017b). Similarly, women in tobacco control are seldom recognized as potential leaders (Samet and Yoon, 2001) and are less likely to receive formal recognition for their work. An analysis of WHO World No Tobacco Day Awardees from 2005 to 2017 revealed a significant male bias. Compared to women in the same region, men in Africa and the Western Pacific were four times more likely to receive an award. Men in the Eastern Mediterranean region were three times more likely, and men in the Americas and southeast Asian region were twice as likely. Gender parity was only reached in the European region (Haglund, 2018).

A critical factor that limits women's career opportunities and even drives them out of institutions is sexual harassment (ILIES et al., 2003; National Academies of Sciences, Engineering, and Medicine, 2018). Sexual harassment is pervasive at all levels in academic science, engineering, medicine, and global health, and undermines the advancement of science (National Institutes of Health, 2019). Women of color experience the highest rates of negative workplace experiences, including harassment and assault (Clancy et al., 2017).

The gender-related barriers to success that women in the sciences face and resultant underrepresentation can be further compounded by gender bias – whether implicit or explicit – by reviewers and publishers of peer-reviewed journals, especially in LMICs. In an analysis of articles in The Lancet Global Health, women accounted for only 34.4% of authors overall, 37.5%

of first authors and 29.7% of last authors. Across all female authors, 67% were from HICs, 25.5% were from MICs, and 7.5% were from LICs (Morgan et al., 2019).

An analysis by the Foundation for a Smoke-Free World of nearly 3,000 research papers within the smoking cessation, nicotine, and harm reduction ecosystem in the USA, the UK, Japan, China, and India found significant gender disparities in first and last authorship (Table 3). Also, it was clear that women-specific research was dominated by women authors. Papers published on "effects on pregnancies" contained the largest female majorities in topic-based research among last authors in the USA (59.38%) and first authorship in the UK (69.46%), the USA (74.65%), and Japan (51.35%). Papers published on "menopausal symptoms" had the largest female majorities in medical research among both first authors (75%) and last authors (64.75%) in the USA (Foundation for a Smoke-Free World, 2020).

In addition to being under represented, female researchers are also less likely to be funded and tend to receive smaller grants than men, which places them at a disadvantage from even the earliest stages of their careers (Oliveira et al., 2019). Research shows that gender gaps in funding are the result of women being evaluated less favorably than men, not of differences in the quality of their proposals (Tamblyn et al., 2018; Witteman et al., 2019).

The inequitable representation and under-funding of women have real world consequences, limiting the generalizability and applicability of research and interventions. A scarcity of women in the sciences may also be related to insufficient sex inclusion and reporting in studies, which is critical for future meta-analysis (Sugimoto et al., 2019). As such, gender diversity and sex- and gender-based analysis in research are critical to developing new health technologies (Klinge, 2014; Heisook and Pollitzer, 2016), including innovations and new market opportunities in the private sector (Thomas, 2004; Lin et al., 2016). Additionally, more diverse research teams may develop more nuanced and relevant research questions, resulting in research that can benefit a broader population (Shannon et al., 2019).

4.3 Stigmatization and sexism

Traditional tobacco control tends to rely upon tobacco denormalization, which wields tobaccorelated stigma and can have the effect of "blaming the victim" (Antin et al., 2015). It exploits harmful gender stereotypes (Greaves et al., 2014) and stigmatizes smokers who may already experience discrimination based on their race, class, sexual orientation, or other characteristics. Simply confronting smokers as complicit in the perpetuation of an unhealthy lifestyle or addiction is a sexist and disrespectful approach (Bottorff et al., 2014; Greaves, 1996) and can lead to poor mental health, increased smoking and/or substance use, avoidance in seeking medical care, and discrimination by health care professionals (Burgess et al., 2009; Grant et al., 2018).

Harm reduction, or the reduction of smoking when cessation is not possible, has been used to address addiction that suspends judgment and reduces stigma, involving the gradual reduction of smoking, reduction of exposure to others' smoking, improving other facets of health, "or even recognizing that a woman is not ready to quit at this moment" (Greaves, 2015). It focuses on the social and economic context of women's lives and rejects the

Table 3 Female authorship by geography					
Geography	First author % female	Last author % female			
All USA UK Japan China India	49.81% (N = 27,764) 52.7% (N = 19,343) 52.47% (N = 3,882) 24.58% (N = 1,863) 41.14% (N = 1,512) 44.46% (N = 1,165)	35.81% (N = 28,925) 38.75% (N = 20,642) 35.55% (N = 2,584) 9.23% (N = 2,026) 36.15% (N = 1,159) 30.09% (N = 1,090)			
Source: Foundation for a Smoke-Free World (2020)					

fallacy of autonomy in addiction that characterizes smoking as simply a personal choice (Appleberry, 2000).

Tobacco control has historically fixated on smoking cessation, not reduction, and has been critical of harm reduction, despite evidence that it has great potential benefits for pregnant women, low-income individuals, individuals with mental illness and heavy smokers (Greaves et al., 2011; Lange et al., 2018). As with the HIV and opioid crises (Des Jarlais, 2017), wider acceptance of the model will only grow if mainstream global health suspends judgment and devotes attention to objectively analyzing and weighing the benefits, consequences, ethical challenges and efficacy of interventions (Fox et al., 2002).

4.4 Lack of intersectionality

Because gender inequality can be exacerbated by other intersecting sources of inequality and marginalization (Hawkes et al., 2019; Hankivsky, 2014), the tendency of tobacco control programs, policies, and research to classify women as a homogenous group and use a "one-size-fits-all" approach puts some sub-populations at a greater disadvantage. For example, high prevalence of smoking among indigenous women contributes to gaping health disparities between indigenous and non-indigenous peoples globally (Gould et al., 2017). Higher rates of smoking have also been linked to psychosocial factors such as mental health issues, drug or alcohol dependence, and trauma induced by intimate partner violence or sexual abuse (Greaves and Hemsing, 2009).

Traditional tobacco control has also largely failed to expand the concept of gender, engage the lesbian, gay, bisexual, transgender and queer (LGBTQ) community, and address their unique needs. LGBTQ people smoke at rates that far exceed the overall population (Clarke and Coughlin, 2012) and often face barriers to accessing quality health care, such as stigma, discrimination, rejection, and even violence (Kates et al., 2018). They are also a marketing target of the tobacco industry (ASTHO, 2013). Despite these challenges, sexual and gender minorities are largely invisible in research, intervention, and policy (Hawkes et al., 2019; Network for LGBT Health Equity, 2012).

5. Recommendations for gender equity in tobacco control

Governments, the private sector, researchers, publishers, and advocates all have critical and concurrent roles to play in accelerating progress toward gender equity in tobacco control. Meaningful and sustainable institutional change will require a commitment to cross-sector collaboration and the mainstreaming of gender across all aspects of global health, such as the following:

- The Conference of the Parties to the WHO FCTC should draft a formal action plan to fundamentally integrate gender across all facets of tobacco control based on the commitments and guidance explicated in CEDAW, the Beijing Declaration and Platform for Action, and the Kobe Declaration.
- A gender-transformative approach should be central to national tobacco control legislation, policies, and programs to comprehensively prevent the uptake of smoking; strengthen cessation and harm reduction interventions: sever the association between smoking and women's liberation; reject the perpetuation of stigma; and support the education and leadership of women and girls.
- Governments and the private sector should support and stimulate gendered innovation in the design of smoking cessation and tobacco harm reduction interventions, digital tools, and products.
- Strong partnerships should be established between mainstream tobacco control and other actors engaged in women's health, rights, and leadership promotion across the

- public, private, and non-profit sectors to globally elevate tobacco control as a critical component of global health.
- Global health and tobacco control funders, institutions, and peer-reviewed journals should address the structural issues that limit diversity in research and perpetuate discrimination, ensure the integration of sex and gender across the research continuum, support womenand LGBTQ-specific research, and require the collection and reporting of data disaggregated by sex, age, race, ethnicity, geography, socioeconomic status, gender identity, and sexual orientation when possible to address the needs of subgroups.

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