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Tobacco Control and Children: An International Perspective

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Tobacco use currently claims >5 million deaths per year worldwide and this number is projected to increase dramatically by 2030. The burden of death and disease is shifting to low- and middle-income countries. Tobacco control initiatives face numerous challenges including not being a high priority in many countries, government dependence upon immediate revenue from tobacco sales and production, and opposition of the tobacco industry. Tobacco leads to environmental harms, exploitation of workers in tobacco farming, and increased poverty. Children are especially vulnerable. Not only do they initiate tobacco use themselves, but also they are victimized by exposure to highly toxic secondhand smoke. Awareness of tobacco adverse health effects is often superficial even among health professionals. The tobacco industry continues to aggressively promote its products and recognizes that children are its future. The tools and knowledge exist, however, to dramatically reduce the global burden of tobacco. In 2003 the World Health Organization adopted the Framework Convention on Tobacco Control. Aggressive tobacco control initiatives have been undertaken not only in high-income countries but also in less-wealthy countries such as Uruguay and Thailand. Stakeholders must come together in coordinated efforts and there must be a broad and sustained investment in global tobacco control.

Introduction

Tobacco use, primarily through smoking, is currently responsible for >5 million deaths per year worldwide. This death toll is predicted to increase dramatically to 8–10 millions per year by 2030 with a projected 1 billion tobacco-related deaths in the 21st century[1]; the impact on the health and wellbeing of nations is even greater if costs associated with healthcare for tobacco users are considered. The number of smokers worldwide also is projected to increase from the current 1.1 billion to ~1.6 billion within the next 20 years.[2] The burden of disease and death is shifting to low- and middle-income countries.[1,2] Although smoking is harming more people in more parts of the world, the tobacco industry has increased efforts to promote smoking. In the United States alone, the industry spent $12–15 billion annually in recent years in advertising and promotion.[3]

Reducing the production of tobacco and subsequent tobacco use is not commonly viewed as a high priority in many low-and middle-income countries. Such countries are often dealing with immediately pressing concerns such as infectious diseases, severe poverty and malnutrition, and lack of access to potable water.[4] Tobacco control is further complicated by the fact that governments can derive immediate revenues from tobacco production, sales, and taxation. Tobacco becomes an income source for countries with limited resources, whereas tobacco control activities can be seen as a drain on the finances of a poor nation.

Tobacco control efforts such as prevention, tobacco dependence treatment, and countering industry marketing activities are severely underfunded, especially in low- and middle-income countries. Tobacco tax revenue in high-income countries averages over $200 per capita; in contrast, only $1 per capita is spent on tobacco control. In low-income countries, per

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capita revenue is far lower, averaging $7; however, tobacco control expenditures per capita average <$0.001.[1] This immense financial discrepancy marginalizes the work that can be done by tobacco control experts and activists.

Across the globe, children and their families are often the victims of tobacco. This article will explore some of the ways by which families are victimized, review movements to combat the multiple adverse health effects inflicted by tobacco, and explore future directions.

Worldwide Burden of Tobacco

The worldwide burden of tobacco includes not only tobacco-related deaths, disease, and loss of years of productive life, but also environmental harms, exploitation of workers in tobacco farming, and exacerbation of poverty in contexts where limited family income is diverted from food purchases to purchases of tobacco.[5,6]

Tobacco detracts from virtually all of the United Nations Millennium Development goals, including ending poverty and hunger, providing universal education, gender equity, child health, maternal health, and environmental sustainability.[7] This is especially significant given the concentration of tobacco use among the poor and those with the least education who also tend to be least aware of tobacco adverse health effects. Children are especially vulnerable. When parents fail to see harm in their own tobacco use, they are unlikely to view exposing their children to secondhand smoke as a significant concern. This creates a cycle of dependence and propagates intergenerational adverse health effects from tobacco.

In many countries, children initiate tobacco use at very early ages. An estimated 82,000–99,000 young people start to smoke every day.[2] Of the children alive today in China, ~50 millions will die prematurely from tobacco-related disease.[2] This number is only expected to increase in China and in other parts of the world.

Although smoking is the most prevalent form of tobacco use in the developed world, the use of oral forms of tobacco is also common among children in many developing countries. In India among students aged 13–15 years, 14.6% were current smokeless tobacco users. Prevalence in this age group varied widely, however, ranging from 2% in Himachal Pradesh to 55.6% in Bihar.[8] Smokeless tobacco poses substantial adverse health effects even in adolescence. Adolescent smokers and smokeless tobacco users are considerably more likely to suffer periodontal disease.[9] More severe adverse health effects including oral cancer are increasingly likely later in adulthood.[8]

Tobacco also is implicated in infectious disease. Recent studies in India have demonstrated that smoking increases vulnerability both to contracting tuberculosis and to dying of tuberculosis following disease onset.[10,11] Further, there is evidence that continued smoking adversely affects the clinical course of HIV.[12,13] Families are affected when parents suffer negative health outcomes and disease progression exacerbated by toxic tobacco exposure.

The burning cigarette releases >4,000 known chemical compounds including at least 69 known or probable carcinogens. Some of the more toxic chemicals include formaldehyde, benzene, polonium-210, vinyl chloride, carbon monoxide, hydrogen cyanide, butane, ammonia, toluene, cadmium, lead, arsenic, and chromium.[14] Exposure to these toxic compounds through secondhand smoke adversely affects children from the earliest ages; adverse effects include increased risk of sudden infant death syndrome, worsened asthma, and increased respiratory tract infections.[14] In addition, maternal smoking can cause complications of pregnancy, including ectopic pregnancies, spontaneous abortions, prematurity, low birth weights, and stillborn births.[14] Research has demonstrated tobacco-specific carcinogens in the fetus and newborns.[15,16]

The secondhand smoke exposure of children and their families is common in countries around the world and contributes to increased disease and suffering. Young children exposed to secondhand smoke are more likely to contract severe asthma exacerbations, pneumonia, and ear infections.[14] Children of smoking parents are more likely to be hospitalized, especially within the first 2 years of life.[14] A recent study examined secondhand smoke exposure of women and children in 31 countries in Latin America, Eastern Europe, the Middle East, and Asia. Median air nicotine concentrations were 17 times greater in households with smokers compared with households without smokers.[17] The Global Youth Tobacco Survey (a school-based survey conducted in 137 countries using a standardized method) found that approximately half of children between the ages of 13 and 15 surveyed were exposed to secondhand smoke both inside and outside of the home.[18]

The World Health Organization has concluded that there is no safe level of exposure to secondhand smoke and has identified secondhand smoke as a substantial threat to child health throughout the world.[19]

Tobacco harms children and families in a multitude of hidden ways. Children in tobacco farming are often exposed to highly toxic pesticides and are denied opportunities for education.[20] Recent research in Vietnam reveals that tobacco farming is strongly associated with a variety of negative health impacts including exposure to toxic pesticides and green tobacco sickness resulting from nicotine absorption through the skin.[4,21] The adverse health effects of tobacco cultivation are likely to continue as long as there is a market for tobacco products. When parents smoke, limited funds are shifted toward tobacco and away from necessities. This diversion of income can have devastating effects on families in low-income countries, as well as low-income families in developed countries.

There are less obvious adverse health effects of tobacco use by adults. These include cigarette-caused fires that can cause death and serious injury to children.[22] Another less obvious harm is accidental poisoning of young children by tobacco products left within their reach.[23] These adverse health effects, although less common and less visible than the adverse health effects of smoking and secondhand smoke exposure, can have devastating impact.

Even in high-income countries, awareness of tobacco adverse health effects is rather superficial. There is a general lack of understanding of the magnitude of smoking risk, eg, that 1 of 2 smokers will eventually die of a smoking-related disease and half of these deaths will occur in middle age.[1] In low- and middle-income countries, awareness of the adverse health effects of tobacco use is often far less. In Indonesia, recent research indicated that physicians believed a mean number of 10 cigarettes per day was relatively safe.[24] It is critically important to educate health professionals to the dangers of tobacco and the importance of serving as role models both in abstaining from tobacco themselves and in encouraging others to do so.[25]

It is especially tragic that the epidemic is increasing in low- and middle-income countries; many of these countries have limited resources to combat the epidemic and face the ongoing efforts of the multinational tobacco companies to expand their markets.[1,26] There are very few individuals who work in any aspect of tobacco control including advocacy, research, or delivery of prevention or treatment services in most low- and middle-income countries. Although there is much discussion about the need for research and health policy work in the developing world,[1,26] the political structure as well as limited funding and support make research difficult, especially for new researchers.

A particular concern and opportunity is in sub-Saharan Africa where prevalence is low but increasing and where the tobacco industry is quite active.[1] Yet there is still hope, as can be seen by the growing body of research and new health policy movements in low- and middle-income countries. Groups such as the Asia Pacific Association for the Control of Tobacco[27] are working against the efforts of the tobacco industry and are exploring the challenges of the Framework Convention on Tobacco Control.[28] In 2009 the Bill and Melinda Gates Foundation awarded a major grant to the World Health Organization focused on strategies for preventing increases in the prevalence of tobacco use in sub-Saharan Africa.[29]

Although nations have a responsibility to protect all people from the adverse health effects of tobacco, individual healthcare providers and health systems, regardless of country, can make a difference in the lives of families.[30] By becoming tobacco-free themselves, healthcare providers, including lay health providers, can serve as an example for their staff and the families that they see. Helping all families become tobacco free can happen in any practice, using limited resources. Providers can educate staff, families, and the larger community about the adverse health effects of smoking tobacco, exposing children to tobacco smoke, tobacco farming, and childhood tobacco initiation. Clinicians can briefly counsel families about the adverse health effects of tobacco use and exposure and the risks of experimentation with tobacco. For additional services, healthcare providers can refer families to free telephone counseling services at quitlines, offered in many countries, including the United States, Canada, Germany, Australia, Taiwan, and Hong Kong. In developed and developing countries, healthcare providers can serve as advocates for tobacco-free children and families and as community resources for smoking cessation. These steps to help families become tobacco free are simple to learn, easy to implement, and can have a huge impact on the health of children across the world. For more information, visit www.ceasetobacco.org.

Activities of the Tobacco Industry to Promote Their Products Internationally

Although the tobacco industry continues to engage in aggressive promotion of their products around the world, it sees particular opportunities in low- and middle-income countries. China is a notable example. Almost 60% of Chinese men are smokers and 37% of world cigarette consumption occurs in China.[26]

There is evidence from internal industry documents of efforts to both co-opt and divide the tobacco control movement in the United States.[31] The industry has worked to discredit tobacco control advocates and to divert funding from tobacco control policy and research. The tobacco industry has strenuously resisted shareholder campaigns to add graphic health warnings to cigarette packaging.[32] In Myanmar, the British American Tobacco company has used parties for young adults to promote smoking in the past, giving out free cigarettes and other merchandise to party goers.[33]

In many countries around the world, the industry has engaged in so-called "corporate social responsibility" initiatives in an effort to purchase respectability.[34] These initiatives include funding nonprofit organizations and providing scholarships to deserving students. The industry has also sponsored lavish retreats for legislators in poor African countries.[35] As recent research in Malawi reveals, the efforts of the tobacco industry are pervasive and difficult to abate, especially in the arenas of the developing countries' economic reliance on tobacco production and of child labor in tobacco farming.[36]

The tobacco industry recognizes that children are their future. Smoking has been prominently featured in movies where children are a large or even primary audience. There is strong evidence that tobacco industry imagery and advertising attracts children and that depiction of smoking in movies is an especially powerful influence.[37,38] Internal industry documents have demonstrated strong interest in attracting new smokers at young ages.[39,40] By protecting children worldwide from the recruitment efforts of the tobacco industry, the researchers, activists, governmental agencies, nongovernmental organizations, and healthcare providers can limit the number of children who will grow up harmed by tobacco use and exposure. Samet and Wipfli[41] in a recent editorial described continued challenges to the scientific evidence by transnational tobacco companies that have huge financial resources and that engage in extensive lobbying. Their efforts have focused heavily on fighting against designation of smoke-free public places and diverting attention from the adverse health effects of secondhand smoke.[42,43]

Models for Tobacco Control in the Developing World

The World Health Organization for the first time used its treaty making authority in adopting the Framework Convention on Tobacco Control (FCTC) in 2003.[28] The treaty went into effect in February 2005 after having been ratified by the required 40 countries. At last count, 168 countries have ratified the FCTC. The Framework Convention calls for restrictions on tobacco advertising and promotion, increased prominence of warning labels, protection against secondhand smoke, increased prices and taxation, and prohibition of sales to minors among other provisions.

More recently, the World Health Organization has released the MPOWER report.[1] This report calls for monitoring tobacco use, protecting people from tobacco smoke, offering help to quit, warning about dangers of tobacco use, enforcing bans on advertising, promotion, and sponsorship, and raising taxes. Unfortunately, few countries at present are engaged in tobacco control activities at levels approaching the MPOWER recommendations.[1]

There are, however, countries that are more actively engaged in tobacco control. Uruguay is perhaps the most advanced country in the western hemisphere in terms of a comprehensive tobacco control strategy.[26,44] Uruguay recently adopted a requirement for graphic warnings that cover 80% of the cigarette pack. Brazil, South Africa, and Thailand require graphic warnings as well.[1] In addition, each of these countries offers cessation programs. Thailand has a comprehensive tobacco control program that includes use of dedicated excise taxes for tobacco reduction.[1] These countries demonstrate that it is possible to achieve comprehensive tobacco control programs on relatively modest budgets.

Conclusion

The global tobacco epidemic, already devastating, is projected to dramatically increase. If current trends continue, there will be 1 billion tobacco-related deaths in this century. These deaths will be concentrated among the most vulnerable, those in low- and middle-income countries and within these countries among the poor and less educated. Resources for combating the tobacco epidemic are meager, especially in light of the magnitude of tobacco adverse health effects. Virtually all of the United Nations Millennium Development Goals are adversely affected by tobacco. There is a roadmap to fight this epidemic in the Framework Convention, the MPOWER report, and other relevant documents. There is a strong evidence base for many of the recommended strategies.

A broad and sustained investment in international tobacco control is urgently needed to reverse the global trend of increasing tobacco-induced poverty, morbidity, and mortality. Failure to act aggressively on behalf of children now creates a broader, more deadly epidemic of tobacco dependence in the future. It is easy to become discouraged in the face of the increasing tobacco epidemic, the powerful multinational tobacco industry, and the seeming indifference of governments and other stakeholders. However, tobacco-related deaths are entirely preventable. It must be made clear that tobacco production and promotion, especially as these affect children, are fundamental human rights issues.

Clinicians can and should do a better job of engaging tobacco users and their families and recognizing that these individuals have been victimized by the tobacco industry. There has been too much blaming of the victim, even within the tobacco control movement. Individuals can advocate for increased priority and resources for tobacco control, especially those meeting the needs of children. Child healthcare workers can be powerful role models and spokespeople in encouraging parents to quit and to reduce the exposure of children to secondhand smoke, and in lobbying for effective tobacco control policy. By acting together and in concert we can prevent tobacco dependence in subsequent generations of children and can thereby save many millions of lives.

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