

Promoting Tobacco Cessation in Low- and Middle-Income Countries

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The tobacco epidemic is increasingly concentrated in low- and middle-income countries (LMICs) (WHO, 2008). These countries often have very limited resources and infrastructure to confront this epidemic. Public knowledge of tobacco health harms may be quite limited and, unfortunately, this is often true for health professionals as well (Nichter, 2006). Clinical practice guidelines have identified effective tobacco cessation interventions (Clinical Practice Guideline, 2008), but these have been focused primarily upon high-income countries. Approaches that have been successful in high-income countries may not be directly applicable in low-resource settings. Thus, for example, medications may not be readily accessible and infrastructure to support quit line programs may be minimal or non-existent.

There has been considerable progress in tobacco control over the past 50 years, but much of this progress has been in high-income countries. The WHO Framework Convention on Tobacco Control (WHO, 2003) was a major step forward and now has been ratified by 180 parties. Article 14 of the FCTC calls on parties to provide tobacco dependence treatment. The article itself is quite brief, consisting of approximately one-half page of text and provides limited guidance to parties on implementation of effective treatment approaches. The article simply states that each Party shall ‘endeavour’ to design and implement effective programs, include diagnosis and treatment of tobacco dependence in national health plans and strategies, establish programs in health care facilities and rehabilitation centres, and collaborate with other Parties to facilitate accessibility and affordability of treatment including medication.

WHO subsequently provided more detailed guidelines for implementation, noting that tobacco use is highly addictive and emphasising the importance of incorporating tobacco dependence treatment within the context of comprehensive tobacco control programs (WHO, 2010). The guidelines went on to state that treatment should be based on the best available evidence, should be accessible and affordable, should be inclusive of all tobacco users, and

should include monitoring and evaluation. Recommendations for developing an infrastructure to support tobacco cessation included conducting a national situation analysis, developing and disseminating comprehensive guidelines, addressing tobacco use by health care workers, and developing training capacity. The WHO guidelines encouraged establishment of both population-level and individual approaches including mass communication, incorporation of brief advice into existing health care systems, quitlines, specialised tobacco dependence treatment services, and medications. In addition, the guidelines called for establishing a sustainable source of funding.

Although the recommendations have considerable merit, applying these in low- and middle-income countries is likely to be problematic. Not only are there challenges due to lack of resources and infrastructure, but tobacco control in general and cessation specifically all too often have been viewed as being of low priority. This is true despite the fact that cessation has the greatest potential for reducing tobacco related mortality in the short term (Jha, 2012). In this context, the special issue of the *Journal of Smoking Cessation* makes a vital contribution. It serves to raise awareness of the importance of tobacco intervention research and treatment in low- and middle-income countries and summarises a number of lessons learned from case studies and randomised controlled trials conducted in LMICs. The contents of this special issue add significantly to a literature that has been heavily weighted toward a relatively few high-income countries.

The articles in the current issue cover a broad range of topics. Much of the content is encouraging and even inspiring, while still acknowledging major challenges. The success of the Syrian Center for Tobacco Studies in developing the infrastructure to conduct smoking cessation research and to conduct randomised controlled trials is truly remarkable in the context of ongoing political upheaval (Asfar et al., 2016). Work in the Dominican Republic has led to significant successes in a country that has not been generally supportive of tobacco control (Ossip et al., 2016). There is a huge unmet need to provide tobacco dependence

treatment to medically compromised tobacco users. Action to Stop Smoking in Suspected Tuberculosis (ASSIST) is an excellent example of an effective program for smokers with symptoms of TB that has been integrated into the national tuberculosis program of Pakistan (Dogar et al., 2016). Even in low-income countries, provision of specialised treatment to medically compromised tobacco users should be a priority.

Capacity building is essential to delivery of effective treatment. Engaging health professionals and other opinion leaders is a key part of capacity building. Global Bridges is a model program that has created and facilitated a network of health professionals and has enrolled more than 22,000 individuals from 62 countries in tobacco cessation training (Kemper et al., 2016). To date, these health care providers have treated almost 4 million tobacco users. The creation and maintenance of a multilingual website (www.globalbridges.org) is an important resource, facilitating further communication and sharing of information among network members. Leischow et al. (2016) report encouraging findings indicating that significant communication is indeed taking place through this network.

Funding continues as a largely unmet need, despite a substantial commitment from the Bloomberg Initiative and the Bill and Melinda Gates Foundation (Parascandola et al., 2016.) Unfortunately, this funding has not supported research and tobacco cessation has been a lower priority than policies such as raising prices and restricting smoking. Government expenditures for all aspects of tobacco control combined generally have been only a minuscule fraction of revenue raised from tobacco taxes (WHO, 2008). Parascandola et al. (2016) note the importance of promoting cessation research in LMICs and point to the diversity of tobacco products. The National Cancer Institute has been a significant supporter of international tobacco cessation research and was a major contributor to the International Tobacco and Health Research and Capacity Building Program, led by the Fogarty International Center (Fogarty International Center, 2013). Far more is needed, however.

The findings reported by (Li et al., 2016) for prominent graphic pack warnings have implications for the broader context of tobacco cessation. Graphic warnings can increase awareness and encourage quit attempts. MPOWER (WHO, 2008) provides a roadmap for a comprehensive approach to tobacco control. The fact that cessation does not take place in a vacuum is sometimes overlooked. I was part of a delegation to former Soviet Georgia in 2000. The message I heard essentially was to abandon the current generation and to focus on prevention. However, prevention alone in a context of high smoking prevalence among both men and women and in the absence of other tobacco control initiatives is unlikely to be effective.

The articles in this special issue summarise a number of important lessons and also provide directions for the future. From my own experience, I would place strong

emphasis on capacity building and also look for low-cost cessation strategies. Continued research is essential, especially in LMIC contexts, but there also is an immediate need for dissemination of effective interventions. We engaged health professionals as role models and opinion leaders in our Fogarty funded work in India (Trivandrum, Kerala) and Indonesia (Yogyakarta) (Nichter, 2006). A key assumption was that health providers must be in the forefront of tobacco cessation efforts if substantial reduction in prevalence is to be achieved.

Unfortunately, as noted in the special issue, physicians and other health professionals exhibit high rates of tobacco use in a number of LMICs. They also may be uninformed about the health consequences. We found an increase in reported tobacco use prevalence between the first and fourth years of medical school in both Trivandrum and Yogyakarta. Our surveys revealed that in India, the mean number of cigarettes (and beedi) doctors thought relatively safe to smoke per day was 5–6, while in Indonesia the mean number was 10. We also found misperceptions among tobacco users including the belief in India that tobacco harms could be minimised by eating certain foods or drinking large amounts of water and in Indonesia that certain brands of cigarettes that are 'suitable' (cocok) for the body. One unanticipated consequence of our work was multiple masters' theses and PhD dissertations focused on tobacco in both of our project sites.

Given current realities, it is necessary to be strategic in providing tobacco cessation services in low-resource settings. Tobacco cessation medications may not be a viable option for widespread use in most low-income countries, although there has been promising research on cytisine as a lower cost alternative to nicotine replacement (Walker et al., 2014). I would argue, however, that even in low-income countries, pharmacologic treatment should be considered together with intensive behavioural intervention and support for tobacco users who are medically compromised. Integrating tobacco cessation into health care systems appears viable, although challenges remain in light of competing priorities and limited access especially for poor people in rural areas.

How do we proceed in light of limited resources and limited knowledge, especially pertaining to tobacco products other than cigarettes as well as new and emerging tobacco products? We must continue to advocate for greater priority and resources in addressing the leading preventable cause of death. We must continue to conduct research to address major gaps in our knowledge. We must continue to engage health professionals as leading advocates for tobacco cessation. However, we can also reach out to additional opinion leaders as interveners and role models. Sorensen and her colleagues (Sorensen et al., 2013) were successful in using teachers as exemplars for encouraging tobacco cessation in a project conducted in Bihar, India. In addition, there is tremendous potential for enlisting religious leaders as influentials to discourage tobacco use and to support tobacco cessation.

In conclusion, the ideal of extensive population-level and individual interventions within the context of comprehensive tobacco control strategies will not always be feasible. Health systems tend to be overburdened and many tobacco users in LMICs do not have ready access to health care professionals. Although quitlines have been widely adopted, these are far from universally available even in high-income countries. The cost of medications may be prohibitive for most LMIC tobacco users. Furthermore, the evidence of effectiveness for medications is limited outside of the context of conventional cigarettes.

Nevertheless, there is reason for optimism pertaining to tobacco cessation treatment in low-resource settings. Despite the pressures on health systems, health professionals around the world have been actively involved in promoting cessation (Kemper et al. 2016). Even brief advice from health professionals has been shown to increase quitting (Clinical Practice Guideline 2008). Some of the key recommendations from the US Clinical Practice Guidelines for Tobacco Dependence could be implemented at relatively low cost. These include the following: recognising tobacco dependence as a chronic relapsing condition, identifying and documenting tobacco use within health care systems, offering brief cessation advice, and providing practical counselling and social support. Furthermore, there is untapped potential for lay cessation counsellors (Lando, 1987). Lay individuals can be trained in basic cessation skills and can be important sources of advice and support (Muramoto, 2000). Ossip et al. (2016) described a very promising approach in successfully conducting Tobacco Specialist Training in the Dominican Republic. Although additional research is needed to establish the broad generalisability of the clinical practice guidelines both to LMIC regions and to multiple forms of tobacco, it is important to recognise that providing tobacco cessation treatment is feasible even in countries with the fewest resources.

Finally, I would argue that it is unethical to continue to raise prices and place increasing restrictions on tobacco use without also offering treatment to dependent tobacco users. Although price increases have been demonstrated to reduce tobacco consumption and are emphasised as part of MPOWER, expenditures on tobacco can lead to increased food insecurity in low-income households (Efroymson 2001). Promoting tobacco cessation is both effective and cost-effective and has the potential to save millions of lives over the coming decades. We need to do all we can to continue to raise awareness and to study and disseminate effective tobacco dependence treatments globally. This special issue of the *Journal of Smoking Cessation* is an important contribution to this effort.

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