Taking tobacco control for a lap and lunch: Lessons learned from tobacco control initiatives and the impact on the uptake of obesity management strategies

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Abstract
Smoking prevalence has been declining in recent years due to utilizing a multi-faceted approach including; policy implementation, ongoing education and behavioural interventions. It has been suggested that the tobacco control approach can be applied to obesity management but the uptake has been minimal. This article examines plausible reasons as to why the suggested strategies from tobacco control have not yet taken effect for obesity management specifically aiming to increase physical activity and nutrition.

Utilizing tobacco control strategies to increase physical activity and healthy dietary habits to prevent obesity is not a novel idea, however unlike tobacco prevalence we have not seen a decline in rates of obesity. The purpose of this short communication is to highlight potential reasons as to why the lessons learned from tobacco control have not seen the same success on obesity prevalence specifically in North America.

The Prevalence of Smoking and What has been Done

The prevalence of smoking worldwide in 1960 was over 50% for men and 10.6 % for females and since then there has been a decline with current statistics indicating that the global prevalence is around 31.1% for men and 6.2 % for women [1]. Specifically in North America, around 15% of the population are considered smokers. Following the worldwide trend, the male prevalence of smoking is higher than that found for women (16.3% and 13.4% respectively) [2,3].

The steady decrease in smoking was partially initiated by the plethora of research linking smoking with negative health consequences such as: many different types of cancer (most documented; lung, throat, and stomach), heart disease, chronic obstructive pulmonary disease, and many others [4]. As early as 1965, health warnings were required to be on cigarette packages in Canada [5], followed in 2001, by graphic health warnings that cover 50 % of the front and back of the package [6]. Canada has also increased the taxes on tobacco products, and has banned flavoured tobacco, smoking inside public buildings, and tobacco displays at the point of sale [7]. These multi-faceted approaches target several different aspects of the negative health behaviour to: 1) limit the use from potential new smokers/protect youth; 2) assist current smokers in smoking cessation attempts and; 3) protect the public at large from second-hand smoke.

The Prevalence of Obesity and What We Can Do

Obesity is a rising epidemic, with current global statistics suggesting that 39% of adults have a body mass index (BMI) of overweight (BMI ≥25.0-29.9 kg/m2) and 13% have a BMI of obese (BMI ≥30.0 kg/m 2) [8]. Furthermore, we have seen an increasing trend for the prevalence of childhood obesity with 41 million children under the age of 5 and 340 million children ages 5-19 with a BMI ≥25.0 kg/m2 in 2016 [8]. In North America specifically, one in four adults and one in ten children have a BMI ≥25.0 kg/m² with an attributed 4.1% of annual healthcare related costs due to obesity [9]. In 2015 the Canadian Medical Association officially recognized obesity as a disease [10] as obesity has consistently shown to be a risk factors for developing other future chronic diseases including high blood pressure, insulin resistance, and plaque build-up in arteries [11]. Obesity has been recognized as a preventable disease with lifestyle behaviour change predominantly including physical activity and nutrition [12]. Physical activity and nutrition behaviour change can also be included in the management and treatment of obesity [12]. Therefore it is important to implement effective strategies to promote leading a physically active lifestyle with a healthy diet to protect against developing obesity and its associated negative health outcomes and to support individuals who have obesity with effective management and treatment options.

As early 2004, Warner was exploring the possibility of utilizing successes in other health domains and applying them to obesity (specifically through nutrition). Although Warner (2004) [13] highlighted the successes in tobacco and alcohol firearms control in the United States of America, for the purposes of the current article it seems prudent to revisit what he wrote about tobacco control and how it might apply to preventing obesity. For instance, he suggested that both environmental changes and behavioural interventions play a large role in sustained smoking cessation and should be addressed to overcome the obesity epidemic. In regards to tobacco control key environmental interventions that were mentioned are; removal of tobacco ads from radio and billboards and clean air initiatives in public buildings.

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(workplaces, restaurants, etc.), which may translate to banning ads for unhealthy foods on the radio and television today. On the behavioural side of tobacco control, educational programs were used not only to decrease tobacco use but also to increase the acceptability of policy changes [13]. Today, educational programs about physical activity and nutrition could be implemented at schools and workplaces. Garson and Engelhard [14] also advocated the need for strong messages from the Surgeon General for obesity, which was done for smoking. They hypothesized that this would provide additional acceptability of policy changes. Finally, funding for academic research and non-for-profit organizations covering the entire spectrum of treatment for cancers changes. Finally, funding for academic research and non-for-profit organizations covering the entire spectrum of treatment for cancers

Reasons why lessons learned from tobacco control may have not taken effect yet

We have known about the detrimental effects of leading an inactive lifestyle and making poor dietary habits; and there have been efforts made to change these behaviours using effective strategies that have been used for tobacco control. Unfortunately, obesity rates have continued to increase. Below are potential reasons as to why lifestyle strategies for obesity prevention to date have been ineffective.

1. Time – Efforts to reduce the prevalence of tobacco use began in the 1960’s and continue to date. Achievements such as banning flavoured tobacco products and increasing the tax on tobacco products in North America took place within the last five years. Arguably obesity received global recognition in 1981 with the release of the LaLonde report [20] and it was not until just three years ago was it recognized as a disease in North America. Similar to tobacco control initiatives, perhaps the focus now should be on developing effective physical activity and nutrition promotion strategies that can be sustained over a long period of time in order to see long term changes in these behaviours and obesity prevalence.

2. Lack of evaluation on implemented strategies – Related to the time argument, interventions that have been implemented need to be evaluated to determine if they have been positively influencing behaviour change. For example, in North America all restaurants are required to indicate the number of calories in all products however the effectiveness of this strategy in influencing decisions for food consumption has not yet been evaluated. By evaluating programs we can determine what changes need to be made. For example, it was identified that graphic warnings on cigarette packages are more effective than text-only for initiating a quit attempt and as a result having more than 50% of the package consisting of a health warning pictorial message was advocated for [21]. Utilizing the RE-AIM framework it may be possible to evaluate interventions such as the number of calories in all products [22].

3. Policy change and political leaders on board – Many of the achievements seen by tobacco control have been a result of policy change and persistent advocacy. For example, in Canada health units have full-time staff that are dedicated towards implementing effective smoking cessation programs and advocating for policy change [7] with the goal of reducing smoking prevalence to 5% by 2035. Cost of healthy foods, the built environment [23], structure/layout of grocery stores [24] and advertisement to children for unhealthy foods [24] are a few examples of barriers that have been identified for leading a healthy lifestyle and perhaps with political leaders on board and full time staff across local levels of government we can follow the dedicated model that tobacco control has used to effectively promote and advocate for change.

4. Educational system – The primary focus of the medical model currently implemented in North America is on treatment of disease and not prevention [25]. Doctors are currently aware of the diseases associated with smoking but many are unaware of the efficacy of physical activity and nutrition for prevention of chronic diseases such as obesity [26]. Potential solutions to this issue may be to modify the current curriculum in medical schools to incorporate promotion and prescription of nutrition and physical activity to prevent and treat chronic diseases including obesity. Organizations like Exercise is Medicine can provide needed avenues for collaboration between fitness professionals and the medical community to assist with the inclusion of lifestyle behaviour change in primary health care (Sallis, 2009).

Conclusion

Tobacco control initiatives, including policy changes and ongoing education on the negative impact tobacco products have on health have essentially de-normalized the use of tobacco products. For example, it is not acceptable both socially and legally to smoke indoors whereas engaging in extended periods of sedentary behaviour does not garner the same attention. Policies have been advocated and implemented to change our built environment to reduce the prevalence of smoking. Built environments include efforts to reduce the prevalence of tobacco use by assuring there are smoking or smoke-free zones, no smoking signs, ash-trays to reduce pollution and regulations to be further away from public buildings. As a result of this, smoking in public places has become unacceptable. Similarly, we need to advocate for policy change for built environments to also promote physical activity such as including safe and accessible sidewalks, bike lanes, public transport and playgrounds. Furthermore, tobacco products have been de-glamourized, again with the implementation of policies such as warning messages about smoking before the beginning of a movie, ongoing education and consistent messaging including health warnings on tobacco products. Similarly, we need to decrease the visibility (e.g. structure of grocery stores) and accessibility (e.g. cost of fast foods in comparison to healthy food) of unhealthy foods and promote healthy lifestyles.
eating. By de-normalizing physical inactivity and unhealthy eating, we may see a similar impact on behaviours as we have seen with the use of tobacco products.

Although the recommendation to use lessons learned from tobacco control strategies and apply them to increasing physical activity and healthy dietary habits to address obesity have been known for a number of years, perhaps we should be optimistic that these efforts are currently in their infancy and we will see a change overtime. Furthermore, it is important to recognize that beyond the suggested thermodynamic model (balance between physical activity and diet) there may be other factors such as sleep, genetics, exposure to chemicals in food products, and environmental influences that contribute to obesity risk and therefore should also be addressed to increase prevention and treatment. Finally, lifestyle behaviour change can be challenging and therefore a population health approach should be incorporated as we have with tobacco control that includes addressing the built environment and education systems. It is important to note that implemented strategies thus far need to be evaluated and adjusted accordingly. Finally, we need to consider taking a more aggressive approach that includes political leaders and full time dedicated employment opportunities to influence change as we have done with tobacco control.

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