Exploring the potential for a mass media campaign to influence support for a ban on tobacco promotion at the point of sale

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Abstract
This study explores whether exposure to advertisements that focus on the negative effects of tobacco industry advertising and promotion at the point of sale (anti-POS advertising) influence: (i) attitude toward POS advertising; (ii) perceived impact of POS advertising on youth smoking; and (iii) support for a ban on tobacco promotion at the POS among adult non-smokers in New York. Data are from a split-sample, experimental study, using an online media tracking survey with embedded TV, radio and print advertising. Exposure to anti-POS advertising was associated with higher odds of holding a negative attitude toward POS advertising (OR 2.43, \(P < 0.001\)) and support for a ban on tobacco promotion at the POS (OR 1.77, \(P < 0.05\)), but not with perceived impact of POS tobacco advertisements on youth smoking. Findings suggest the possibility that a mass media campaign could be used to influence public attitude toward POS advertising and support for a ban on tobacco promotion at the POS.

Introduction
Many channels through which tobacco was once promoted have been eliminated in recent years, as a result of national and regional regulation [1]. In response, the tobacco industry increasingly relies on the retail environment to communicate with consumers. This is achieved by using advertising and product displays to showcase tobacco brands and evoke brand meaning. For example, tobacco displays include ‘powerwalls,’ the cigarette-lined walls that dominate the visual field as the consumer stands at the register in a retail setting [2–8]. Powerwalls and other displays ensure that consumers will encounter a key brand signifier—the cigarette pack [9–12]—at the point of sale [13, 14]. Strong brands have social meaning as a result of ‘superordinate associations’: powerful, complex brand associations that typically develop over time [15]. Superordinate associations are greater than the sum of their parts, which consist at least of audience, positioning, messages, packaging (including color and font) and price. Having developed a strong brand, a single element of that brand is often sufficient to call to mind the full meaning of the brand. Tobacco companies use substantial financial incentives to store owners to tightly control the way tobacco is presented in the retail environment [12, 16]. In 2011, the tobacco industry spent $76.7 million on signage within the retail environment and $357 million on promotional allowances to retailers, to ‘facilitate the sale or placement of cigarettes’ [16]. Tobacco industry efforts to reach and influence the public through POS promotion have been effective. National and state surveys show that a substantial proportion of the public sees POS advertising and promotion [17–19]. The majority of US youth report seeing POS promotion in convenience and other stores in a given month [20, 21]. Moreover, youth exposure to POS advertising and product displays has been associated with enhanced tobacco brand imagery [22], brand recall [23], perceived...
availability of cigarettes regardless of one’s age [23], susceptibility to smoking [24, 25], greater likelihood of experimentation [26] and initiation [27, 28], higher odds of smoking [12, 29] and unplanned or impulse purchases [30–32]. Among adults, exposure to POS promotion has been associated with impulse purchases [33] and, among former smokers, with the urge to start smoking again [12, 34].

The international tobacco control community has developed several responses to the influence of POS promotion, most prominent among them the adoption of bans on POS advertising and promotion [35, 36]. Public support for POS display bans is strong, even among smokers [37–39]. Research is needed to assess the ‘long-term consequences’ of bans on tobacco promotions at the POS (p. 151) [35]. However, studies suggest mostly positive public health outcomes, including excellent retailer compliance [32, 40, 41], marked reductions in tobacco promotion [42], and declines in youth recall of tobacco advertising, perceived smoking prevalence and brand attachment [40, 43, 44]. Although the 2009 Family Smoking and Prevention Tobacco Control Act gave the Food and Drug Administration (FDA) authority to regulate marketing and promotion of tobacco products in the United States [45], restrictions on promotion are ‘subject to the constraints of the First Amendment.’ (p. 1) [46, 47]. Given that a number of lawsuits have already been brought by tobacco companies to challenge FDA’s authority to regulate tobacco products [48], it appears that a national ban on POS promotion will not be a reality in the United States in the near future.

Alternatives to a national ban on POS promotion include counter-advertising within the retail environment and mass media campaigns to influence public support for local POS bans. The first of these practices has not been effectively implemented in the United States to date. A four-country study found that adult exposure to anti-smoking warnings in the retail environment was associated with interest in quitting and quit attempts in Australia, where over 40% of the population saw the advertisements; but not in the United States and other countries where exposure was below 30% [49]. A New York City study likewise found that exposure to graphic warnings about the dangers of smoking—which appeared in stores as the result of a 2009 Board of Health law—was associated with increased thoughts about quitting [50]; however, the law was overturned in 2010 after lawsuits were brought by tobacco companies, trade associations and retailers. The second of these approaches may be more promising: strong evidence supports the use of mass media campaigns to influence tobacco-related cognitions and behaviors among both youth and adults in the United States [1]. With this in mind, in 2010 the New York State Department of Health Tobacco Control Program produced television, radio and print advertisements designed to influence: (i) attitudes about POS advertising, (ii) perceptions about the impact of POS advertising on youth smoking and (iii) public support for a ban on POS promotion. This study describes the short-term effects of those advertisements on non-smoking New York adults who viewed them in the context of an online survey.

**Methods**

**Data collection**

Data were collected using the summer 2010 New York Media Tracking Survey Online (MTSO). The MTSO was designed to measure and track New York smokers’ recall of and reactions to anti-smoking advertisements aired statewide by the New York Tobacco Control Program and to test smokers’ reactions to advertisements not yet aired. The survey was conducted in April 2010, was used to test respondent reactions to four TV, two radio and one print ad that focused on the negative effects of tobacco industry
advertising and promotion at the point of sale (anti-POS advertisements). The MTSO was approved by RTI International’s Office of Research Protection and Ethics Institutional Review Board.

**Sampling strategy**
The MTSO is an adult Internet panel survey conducted by Harris Interactive, using their Harris Poll Online. Participants in the Harris panel are recruited through non-probability-based methods, including Internet banner advertisements, postal mail, email and in some cases, through telephone and in-person methods. The summer 2010 MTSO was designed to survey 1500 respondents aged 18 years and older, with approximately 50% current smokers.

**Study sample and design**
This study includes non-smokers only (sampled smokers watched and provided feedback on a separate set of cessation advertisements rather than participating in this study). Of the total MTSO sample of 1912, 57.2% or 1094 were non-smokers. Although all non-smokers were included in the study, only 863 had the capacity to view the embedded advertising. The other 231 respondents answered ‘no’ to the survey question, ‘Were you able to view this video?’ This study includes those 863 respondents who were able to view and therefore provide reactions to embedded advertising.

Participants were randomized to either an experimental (n = 431) or control (n = 432) condition. Participants in the experimental condition viewed seven anti-POS advertisements prior to completion of key survey questions including attitude toward POS ads, perceived impact of POS ads and support for a ban on POS tobacco promotion. This group will be referred to as the Exposed Group or ‘EXP.’ Participants in the control group viewed the same advertisements subsequent to providing responses to key survey measures. This group will be referred to as the Not Exposed Group or ‘NOEXP.’ The order of ad presentation was randomized in both conditions.

The advertisements
Three of the four TV advertisements tell the story of a tobacco retailer who rejects POS tobacco promotions (and the money he would make by displaying it) because of his concern for neighborhood kids. The tagline urges viewers to ‘Support local retailers that reduce tobacco advertisements.’ The fourth ad portrays a tobacco company sales representative talking about how marketing tobacco is like marketing anything else, ‘It’s about building a lifetime relationship. Branding 101.’ He enters a convenience store and says the tobacco poster for his company, which hangs at the height of a child’s eye, is ‘perfect placement.’ Radio and print advertisements focus on the number of lives lost annually to smoking and the cost of tobacco in the form of taxes at the state and national level. Advertisements tell listeners, ‘When the tobacco industry advertises in stores, it’s New Yorkers who pay. We all pay, smokers and non-smokers. Kids too.’ All advertising is described in greater detail in Table I.

**Measures**
Smoking status, which was used as a screening question for this study, was measured using the item, ‘Do you now smoke every day, some days or not at all?’ Key demographic variables measured by the MTSO are age, race, education and income. Age was computed from the reported year of respondent birth. Race/ethnicity was determined using two items: (i) ‘Are you of Hispanic origin, such as Latin American, Mexican, Puerto Rican, or Cuban?’ and (ii) ‘Do you consider yourself...White Black, Asian or Pacific Islander, Native American or Alaskan native, mixed racial background, other race, or African American.’ Education was measured by asking respondents, ‘What is the highest level of education you have completed or the highest degree you have received?’ Income was measured by asking, ‘Which of the following income categories best describes your total 2010 household income before taxes?’
Table I. Ad descriptions

<table>
<thead>
<tr>
<th>Ad type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>TV Local POS ad 1</td>
<td>A representative from the fictional SmokeStack Tobacco Company (Agent No. 175) enters a convenience store owned by Carlos Sabio. He drops off Mr Sabio’s ‘first payment,’ and disregards Mr Sabio’s questions. With the help of a colleague, the agent hangs a tobacco ad at the level it can easily be seen by passing children. Declaring it ‘perfect’ he leaves. Mr Sabio tears the sign down, saying, ‘Not in my store!’ Tag line: Support local retailers who reduce or remove tobacco advertising. To learn more, go to ReduceRemove.com</td>
</tr>
<tr>
<td>TV Local POS Ad 2</td>
<td>A representative from fictional SmokeStack Tobacco (Agent No. 175) enters a convenience store owned by Carlos Sabio. He tells Mr Sabio ‘I will leave you this amount every month. All you gotta do is hang the sign. OK?’ Mr Sabio has some questions, but doesn’t get a chance to ask them. With the help of a colleague, the agent hangs a tobacco ad in a prominent spot, and leaves. Mr Sabio sees that two teens have noticed the sign, and are talking about it. Mr Sabio tears the sign down, saying, ‘Definitely the wrong spot!’ Tag line: Support local retailers who reduce or remove tobacco advertising. To learn more, go to ReduceRemove.com</td>
</tr>
<tr>
<td>TV Local POS ad 3</td>
<td>Mr Sabio is in a meeting with representatives of fictional tobacco company SmokeStack Tobacco, including agent No. 175, at the company’s office. Agent No. 175 asks, ‘Something wrong with this sign? You want something more colorful? More pretty women? We’ve got lots of those’ Mr Sabio, looking worried says, ‘No, that’s not it.’ ‘Bigger?’ Agent No. 175 asks, ‘we do bigger real well.’ ‘That’s not it either.’ ‘I see; it’s the money is it? We can cut a deal.’ Mr Sabio says, ‘It’s the kids!’ and looking around and feeling that nobody in the room understands the point he is making says, ‘Wow, you guys just don’t get it!’ and then with sudden realization, ‘Or do you?’ Tag line: Support local retailers who reduce or remove tobacco advertising. To learn more, go to ReduceRemove.com</td>
</tr>
<tr>
<td>TV Drive along (Sponsored by the California Department of Health Services)</td>
<td>A tobacco industry representative is shown driving in his car. He tells the viewer, ‘It’s like marketing toothpaste, or anything; laundry detergent.’ The representative is shown entering a small convenience store and approaching the owner, hand outstretched. Voice of the representative is heard over the imagery: ‘If you get a customer young enough, they’re yours for life. That’s just the way it is.’ In store, the representative shakes the owners’ hand saying, ‘It’s Ray, right? Good to see you today Ray’ He surveys the print ads placed on the front of the counter and tells the store owner, ‘Hey look at that, the poster. It’s perfect. It’s perfect placement. Thanks for doing that. I appreciate it.’ The store owner looks ashamed as a young boy approaches the counter to buy something, and is face to face with the poster. The representative says, ‘You see? This is what I’m talking about.’ Boy reads poster. Representative: ‘It’s about building a lifetime relationship. Branding 101. You notice how the eye line is perfect? Huh?’ And tapping his head he says, ‘There’s a method to this madness.’ Tag line: Do you smell smoke?</td>
</tr>
</tbody>
</table>
Perceived effectiveness of anti-point of sale advertising

Perceived effectiveness of the anti-POS advertisements was measured using a series of 10 items designed to capture respondent evaluations of the advertisements. This measure is based on research showing that a similar measure predicted an association between smoking cessation advertising and cognitive and behavioral outcomes, such as intention to quit smoking [51]. Items comprising the perceived effectiveness scale are: ‘This ad has a clear message,’ ‘This ad makes me want to learn more,’ ‘This ad is worth remembering,’ ‘This ad grabbed my attention,’ ‘This ad is powerful,’ ‘This ad is informative,’ ‘This ad is meaningful to me,’ ‘This ad is convincing,’ ‘This ad is ridiculous’ and ‘This ad is terrible.’ Each item had five response options ranging from ‘strongly agree’ to ‘strongly disagree.’ Responses to the items were coded along a one to five scale in such a way that positive responses were scored highest (e.g. responses to the item ‘This ad is terrible’ was reverse coded so that a response of ‘strongly agree’ carried a score of 1 while a response of ‘strongly disagree’ carried a score of 5). Perceived effectiveness items for each advertisement scaled reliably, with alphas of no less than 0.93. Scale scores had a theoretical range of 10–70 for each of the advertisements and in aggregate of 70–350. The observed range of scores was a 70–350.

Attitude toward POS advertising

Attitude was measured using the item, ‘How do you feel about having tobacco products advertised in stores? Five response options ranged from ‘totally acceptable’ to ‘totally unacceptable.’ Responses were dichotomized such that responses of ‘totally unacceptable’ or ‘somewhat unacceptable’ were coded as 1 and all other responses as 0.

Perceived impact of point of sale advertising on youth smoking

Perceived impact of POS advertising was measured using the item, ‘Stores that sell tobacco products often display advertisements for cigarettes and other tobacco products. Do you think that seeing these advertisements makes teens more likely to smoke?’ Five response options ranged from ‘definitely not’ to ‘definitely yes.’ Individuals’ responses were dichotomized such that ‘definitely yes’ and
‘probably yes’ were coded as 1 and all other responses as 0.

Support for a ban on point of sale promotion

Support for a POS ad ban was measured by asking respondents, ‘What is your opinion about a policy that would ban the display of tobacco products such as packs of cigarettes or cigars from stores?’ Five response options ranged from ‘strongly in favor’ to ‘strongly against.’ Responses of ‘strongly in favor’ or ‘somewhat in favor’ were coded as 1 and all other responses as 0.

Analysis

Data were weighted to reflect the state population of adults, adjusting for different probabilities of selection and survey non-response. A logistic regression model was used to assess the relationship between perceived ad effectiveness and the three POS-related outcomes, controlling for age, race, education and income. Logistic regression models were also used to assess the effect of exposure to anti-POS advertisements on the three POS-related outcomes, controlling for prior ad exposure, age, race, education and income.

Results

Sample characteristics

The final sample consisted of 863 non-smokers, of whom 52.8% were randomly assigned to view advertisements that focus on the negative effects of tobacco industry advertising and promotion at the point of sale (anti-POS advertisements) prior to answering questions about their attitude toward POS advertising, their perception of the impact of POS advertising on youth smoking and their support for a ban on POS tobacco promotion (Table II). The remaining sample answered key survey questions subsequent to viewing the same set of advertisements. The weighted sample was primarily White (68.8%); Black and Hispanic respondents comprised 12.7% and 10.7% of the sample, respectively. More than half of the weighted sample was female (55.5%).

Approximately half of the sample (46.9%) was between the ages of 40 and 64 years, 36.6% were younger than 40 years and 16.5% were 65 years or older. By education, the sample was approximately split into thirds, with 33.1% reporting a high school degree or less, 31.3% completion of ‘some college’ and 36.8% having obtained a college degree. A substantial proportion of the sample (18.4%) reported an income of less than $25 000 per year, with another 22.9% reporting income of $25 000–$49 999, 20.0% reporting income of $50 000–$74 999 and 38.7% reporting income of more than $75 000.

Outcomes

Greater perceived ad effectiveness was associated with holding a negative attitude toward POS
advertising (OR 1.02, \( P < 0.001 \)), perceived impact of POS advertising on youth smoking (OR 1.02, \( P < 0.001 \)) and support for a ban on tobacco promotion at the POS (OR 1.01, \( P < 0.05 \)) (data not shown).

Respondents who were exposed to anti-POS advertisements prior to answering key survey questions had higher odds than those who were not exposed of holding a negative attitude toward POS advertising (OR 2.43, \( P < 0.001 \)) and supporting a ban on POS promotion (OR 1.77, \( P < 0.05 \)) (Table III). There was no relationship between exposure to anti-POS advertising and perceived impact of POS advertising on youth smoking. In comparison to females, males were less likely to have negative attitudes toward POS advertising (OR 0.62, \( P < 0.05 \)) and less likely to support a ban on POS tobacco promotion (OR 0.51, \( P < 0.01 \)). Respondents age 25–39 years had lower odds than those who were 18–24 years of holding a negative attitude toward POS advertising (OR 0.39, \( P < 0.05 \)).

Discussion

This study indicates that adult non-smokers who were exposed to anti-POS advertising had higher odds of holding a negative attitude toward POS advertising and higher odds of supporting a ban on POS tobacco promotion than those who were not exposed. Because these findings are based on an experimental design which manipulated ad exposure rather than on naturally occurring exposure, and because outcomes were measured immediately following ad exposure rather than after a period of time, it is not possible to make the claim that a media campaign based on these ads would influence attitudes and support for a ban on POS tobacco promotion. Outstanding questions include whether a media campaign based on these ads could achieve sufficient population-level exposure to produce outcomes and whether ad-related outcomes would be enduring. Nevertheless, these data suggest at least the possibility that a media campaign consisting of these ads could have a meaningful influence on outcomes related to POS advertising. There is certainly precedence for such effects: a large body of evidence shows that media campaigns can be used to influence a variety of tobacco-related cognitions and behaviors, including smoking prevalence, consumption and cessation rates [1, 52, 53].

In addition to the limitations noted above which are directly related to the experimental design of this study, this study is subject to several additional limitations. First, this survey was conducted using an online panel which was convened through non-probability-based methods, including Internet banner advertisements and email. It cannot be said to be representative of adult non-smokers in the state of New York. Second, because this study was conducted solely with New Yorkers, the findings are not generalizable to other states or to the nation. Third, this study was conducted with non-smoking adults only, and therefore does not shed light on ad efficacy among smokers. However, since smokers represent a substantially smaller proportion of the New York adult population than non-smokers, this weakness would not likely have a large effect on support for policy. Moreover, past studies found that smokers were supportive of policy to regulate POS promotion. Fourth, the dependent variables used in this study were single items, as opposed to multiple-item scales which in some cases are better measures. Fifth, there was a substantial amount of missing data for respondents in this study. However, we included indicators to account for missing data in the model. Sixth, all respondents saw all seven of the advertisements, which represented a variety of mediums and messages. It is therefore not possible to assess the relative efficacy of any individual ad or message. It would not be surprising to find that some of these ads resonated more with respondents or were more persuasive than other ads, but this information is not available as a result of this work.

The New York State Tobacco Control Program is not the first entity to explore the possibility of using a mass media campaign to influence tobacco policy. Campaigns in Colorado, Seattle, Washington and Las Vegas, Nevada have used television, radio and print ads to build support for passage and implementation of smoke-free air laws. However, these efforts
Table III. Effect of anti-POS Ad exposure on attitude toward POS advertising, perceived impact of POS advertising on youth smoking, and support for a ban on POS tobacco promotion

<table>
<thead>
<tr>
<th>How do you feel about in-store tobacco ads?</th>
<th>What is your opinion on the banning of the display of tobacco products in stores?</th>
<th>Do you think in-store ads make teens more likely to smoke?</th>
</tr>
</thead>
<tbody>
<tr>
<td>OR/[95% CI]</td>
<td>OR/[95% CI]</td>
<td>OR/[95% CI]</td>
</tr>
<tr>
<td>First exposed to anti-POS ads</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.43*** [1.58, 3.72]</td>
<td>1.77*** [1.15, 2.73]</td>
<td>1.07 [0.70, 1.61]</td>
</tr>
<tr>
<td>Female</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Male</td>
<td>0.62* [0.40, 0.95]</td>
<td>0.51** [0.33, 0.79]</td>
</tr>
<tr>
<td>OR/[95% CI]</td>
<td>OR/[95% CI]</td>
<td>OR/[95% CI]</td>
</tr>
<tr>
<td>18–24</td>
<td>0.62* [0.40, 0.95]</td>
<td>0.51** [0.33, 0.79]</td>
</tr>
<tr>
<td>25–39</td>
<td>0.39* [0.17, 0.93]</td>
<td>0.76 [0.35, 1.67]</td>
</tr>
<tr>
<td>40–64</td>
<td>0.52 [0.23, 1.16]</td>
<td>0.59 [0.29, 1.21]</td>
</tr>
<tr>
<td>65+</td>
<td>0.5 [0.21, 1.21]</td>
<td>0.78 [0.34, 1.77]</td>
</tr>
<tr>
<td>High school or GED</td>
<td>0.65 [0.19, 2.19]</td>
<td>0.44 [0.13, 1.44]</td>
</tr>
<tr>
<td>Some college</td>
<td>0.83 [0.26, 2.70]</td>
<td>0.99 [0.31, 3.11]</td>
</tr>
<tr>
<td>College graduate</td>
<td>1.09 [0.32, 3.74]</td>
<td>0.93 [0.29, 3.01]</td>
</tr>
<tr>
<td>Missing education</td>
<td>1.53 [0.39, 5.99]</td>
<td>1.6 [0.42, 6.06]</td>
</tr>
<tr>
<td>Black</td>
<td>1.08 [0.47, 2.48]</td>
<td>0.63 [0.26, 1.55]</td>
</tr>
<tr>
<td>Hispanic</td>
<td>1.73 [0.62, 4.87]</td>
<td>1.27 [0.47, 3.44]</td>
</tr>
<tr>
<td>Other</td>
<td>1.41 [0.61, 3.22]</td>
<td>1.44 [0.62, 3.38]</td>
</tr>
<tr>
<td>Missing race</td>
<td>1.05 [0.25, 4.44]</td>
<td>0.47 [0.12, 1.84]</td>
</tr>
<tr>
<td>$25 000–$34 999</td>
<td>1.69 [0.61, 4.65]</td>
<td>2.48 [0.92, 6.68]</td>
</tr>
<tr>
<td>$35 000–$49 999</td>
<td>1.53 [0.64, 3.62]</td>
<td>1.86 [0.74, 4.63]</td>
</tr>
<tr>
<td>$50 000–$74 999</td>
<td>0.81 [0.39, 1.69]</td>
<td>1.32 [0.62, 2.81]</td>
</tr>
<tr>
<td>≥$75 000</td>
<td>1.32 [0.65, 2.69]</td>
<td>1.54 [0.71, 3.34]</td>
</tr>
<tr>
<td>Missing income</td>
<td>1.48 [0.60, 3.68]</td>
<td>2.15 [0.86, 5.41]</td>
</tr>
<tr>
<td>Constant</td>
<td>2.32 [0.64, 8.41]</td>
<td>1.87 [0.48, 7.27]</td>
</tr>
<tr>
<td>N</td>
<td>863</td>
<td>863</td>
</tr>
<tr>
<td>Age P-value</td>
<td>0.209</td>
<td>0.477</td>
</tr>
<tr>
<td>Education P-value</td>
<td>0.339</td>
<td>0.036</td>
</tr>
<tr>
<td>Race P-value</td>
<td>0.821</td>
<td>0.468</td>
</tr>
<tr>
<td>Income P-value</td>
<td>0.336</td>
<td>0.39</td>
</tr>
</tbody>
</table>

Notes: The survey items corresponding to the outcomes presented in Columns 3, 4 and 5 are: ‘Do you think in-store advertisements make teens more likely to smoke?’; ‘How do you feel about in-store tobacco advertisements?’; ‘What is your opinion on the banning of the display of tobacco products in stores?’ *P < 0.05, **P < 0.01, ***P < 0.001.
have not been evaluated or evaluations are not available. To our knowledge, New York is the first to use mass media in attempt to influence public perceptions of POS advertising and promotion, and this is the first study to examine the effects of advertising on outcomes related to POS policy. The effect of tobacco promotion at the POS on youth and adult smoking behavior represents a now well-documented threat to public health. This study suggests the possibility that a mass media campaign could be used to influence public attitude toward POS advertising and support for a ban on tobacco promotion at the POS.

**Contributorship statement**

Each of the listed authors contributed substantially to this effort, including conceiving of and developing the study, analyzing and interpreting data, writing and revising the manuscript, approving the manuscript for publication. Each author agrees that they are accountable for the work as a whole. Specifically, Jane Allen headed the analytic plan and development of the manuscript, Kevin Davis implemented the study and guided the analysis and interpretation, Kian Kamyab conducted the data analysis and contributed to interpretation of data and Matthew Farrelly conceived the study and provided guidance throughout the process.

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**Conflict of interest statement**

None declared.

**References**


