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Behavioural Effects of Nicotine Exposure From Secondhand Smoke Among Bar and Restaurant Workers

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Available at: http://works.bepress.com/chizimuzo_okoli/108/
Introduction

- Besides the adverse physical health effects of secondhand tobacco smoke (SHS) exposure, not much is known about its behavioural outcomes.
- SHS exposure is a source of involuntary nicotine exposure with potential behavioural consequences in smokers and nonsmokers alike.
- Hospitality workers are a population at high risk for health problems related to occupational SHS exposure.
- This study explores self-reported behavioural symptoms commonly associated with nicotine withdrawal among smoking and nonsmoking bar and restaurant workers exposed to SHS.

Methods

- This is a cross-sectional analysis of existing data obtained from a larger study examining the effect of SHS exposure on respiratory symptoms among bar and restaurant workers.
- Responses from the sample of 105 smoking and nonsmoking bar and restaurant workers recruited for the original study were assessed for the secondary analysis.

Measures

- Number of sources of SHS exposure (car, home, work, second job, other)
- Hair nicotine analysis using the reversed-phase high performance liquid chromatography with electrochemical detection (HPLC-ECD) method
- Number of cigarettes smoked per day among smokers
- Perceived difficulty quitting when exposed to a smoky environment: “To what extent does being in a smoky environment make it difficult for you to quit using tobacco or to stay quit”
- Behavioural symptoms of SHS exposure (adapted from the DSM-IV criteria for Nicotine withdrawal): “After you have been in a smoky environment, have you ever had the following: depressed mood, trouble sleeping, feeling irritable, feeling anxious, trouble concentrating, feeling restless, increased appetite, and weight gain?”
- Fagerstrom Test for Nicotine Dependence (FTND)

Sample Characteristics

- 63.8% Female
- 87.6% Caucasian
- 84.8% Some college or higher
- 87.6% Worked in restaurant
- 61% Nonsmokers
- Average age 26 years (SD = 7.9 years)
- Average work tenure in establishments 2.3 years (SD = 2.5 years)

Figure 1. Differences in hair nicotine by reported behavioural symptoms among nonsmokers (n = 62)

Table 1. Predictors of four or more psycho-behavioral symptoms among nonsmokers (n = 62)

<table>
<thead>
<tr>
<th>Variables</th>
<th>B</th>
<th>Std err</th>
<th>Odds Ratio</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hair Nicotine</td>
<td>0.80</td>
<td>0.34</td>
<td>2.22</td>
<td>0.019</td>
</tr>
<tr>
<td>Number of SHS Exposure</td>
<td>-0.70</td>
<td>0.43</td>
<td>0.50</td>
<td>0.103</td>
</tr>
</tbody>
</table>

Table 2. Predictors of nicotine dependence among smokers (n = 40)

<table>
<thead>
<tr>
<th>Variables</th>
<th>B</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of cigarettes smoked per day</td>
<td>.70</td>
<td>&lt;.0001</td>
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<tr>
<td>Hair Nicotine</td>
<td>.11</td>
<td>.588</td>
</tr>
<tr>
<td>Four or more behavioural symptoms</td>
<td>.19</td>
<td>.877</td>
</tr>
<tr>
<td>Perceived difficulty quitting when exposed to a smoky environment</td>
<td>.02</td>
<td>.862</td>
</tr>
</tbody>
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Conclusions

- Nonsmokers with higher hair nicotine levels reported greater behavioural symptoms than those with lower hair nicotine levels
- Nicotine dependence among smokers was not associated with hair nicotine level when controlling for number of cigarettes smoked per day
- SHS may be an important source of involuntary nicotine exposure among nonsmokers with behavioural outcomes related to insomnia, feeling anxious, poor concentration, feeling restless, increased appetite and/or weight gain. However, nicotine exposure from SHS may have little effect on nicotine dependence among smokers

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