E-Cigarettes and Smoking Cessation Among Pregnant Women: Insights from a Secondary Analysis of a Randomized Controlled Trial

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INTRODUCTION
Ever more e-cigarettes are used among U.S. adult smokers. This increased use from 2010 to 2012 created a need for research to determine the potential harms and benefits. This research has shown that 60-75% of women relapsed to smoking after e-cigarette use.

AIMS
1) To investigate the relationship between dual e-cigarette usage during pregnancy and smoking cessation outcomes among Quit4Baby randomized trial participants

METHODS
Figure 1 – Recruitment Flowchart

RESULTS
Table 1 – Baseline Sample Characteristics (N=481)

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>E-Cig Dual User (N=42)</th>
<th>Cigarette Only (N = 399)</th>
<th>All (N = 441)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>26.05 (3.26)</td>
<td>22.20 (3.08)</td>
<td>24.89 (2.97)</td>
</tr>
<tr>
<td>Education</td>
<td>11.29</td>
<td>15.36</td>
<td>13.83</td>
</tr>
<tr>
<td>Work Status</td>
<td>3.96</td>
<td>3.95</td>
<td>3.96</td>
</tr>
<tr>
<td>Health Insurance</td>
<td>70.61</td>
<td>72.23</td>
<td>71.43</td>
</tr>
<tr>
<td>Marital Status</td>
<td>74.08</td>
<td>75.20</td>
<td>74.62</td>
</tr>
<tr>
<td>Household Income</td>
<td>46.26</td>
<td>47.90</td>
<td>47.02</td>
</tr>
<tr>
<td>Alcohol Use</td>
<td>40.75</td>
<td>41.36</td>
<td>41.06</td>
</tr>
<tr>
<td>Marijuana Use</td>
<td>24.11</td>
<td>24.82</td>
<td>24.47</td>
</tr>
<tr>
<td>E-Cigarette Usage</td>
<td>48.91</td>
<td>49.02</td>
<td>48.96</td>
</tr>
</tbody>
</table>

Figure 2 – Impact of E-Cigarette on Cigarettes Smoked Per Day

Figure 3 – Impact of E-Cigarette on Smoking Cessation (7 Day Point Abstinence)

SUMMARY OF RESULTS
Study Sample Characteristics
1. Study sample is predominately white pregnant women with a high school diploma, GED or less and are generally low-income.
2. 21.83% of pregnant smokers reported past 30 day use of e-cigarette at baseline or 1 month. E-cigarette users differed from non-users on baseline characteristics including lower Fagerstrom score, and lower self-efficacy to quit smoking.

E-Cigarette Impact on Cigarettes Smoked Per Day
1. At 1 month follow-up, a larger decline in cigarette smoked per day was observed in e-cigarette users (mean decline = 3.95 cigarettes) compared to non-users (mean decline = 3.16 cigarettes); however, it was not statistically significant.

E-Cigarette Impact on Smoking Cessation
1. Compared with pregnant smokers who never used e-cigarettes during pregnancy, smokers who ever used e-cigarettes were less likely to quit smoking for 30 days at 1 month follow-up after controlling for intervention effect (AOR=0.466, 95% CI = 0.191, 1.335; p = 0.69) and approached the level of significance.

CONCLUSIONS & FUTURE DIRECTIONS
The current findings of e-cigarette’s impact on smoking behaviors among pregnant women in the U.S. are mixed. It is notable that e-cigarette dual users in our sample have a higher baseline cigarette dependence and a lower self-efficacy level to quit smoking. Future intervention should consider the role of e-cigarette during program design and pilot testing. The longitudinal effects of e-cigarette use and relative reduction of cigarettes smoked per day should be explored in future analyses.

REFERENCES


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